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TECOM Project No. 8-ES-115-LAD-003
YPG Report No. 91-018

AD-A236 127



US ARMY
MATERIEL COMMAND

ABBREVIATED FINAL REPORT

FOR

DT II (DEVELOPMENT TEST II)

OF

LADDS (LAUNDRY AND DECONTAMINATION DRY CLEANING SYSTEM)

VOLUME II OF II

DTIC

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APPENDIX A. TEST DATA

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Supportability Analysis Chart

Instruction Sheet

<u>Column Title</u>	<u>Explanation/Definition</u>
ITEM ID:	Item identification numbers are as follows:
GENLAD:	Generator
LADD01:	The unit itself
SSPLAD:	System Support Package incidents
INC-DATE:	The date (YYMMDD) that this problem or incident occurred, began, or was detected.
TIR NO.:	The TIR number that was assigned by this test agency.
PART NAME:	The name of the part from the MAC being described as the incident subject.
ACTION TAKEN:	The word or phrase that best describes what was done to the part named, following the incident.
FGC:	The FGC (Functional Group Code) obtained from the MAC to which the part named belongs if identified within the DEP 10-3510-221-14 LADDS TM.
OPSHRS:	The OPSHRS accumulated from the time the circuit breaker is on after generator start-up to the time the circuit breaker is off at the end of the work day.
PRODHRS:	The PRODHRS accumulated from the start of the first wash cycle to the start of still boil-down at the end of the day.
GENHRS:	The GENHRS accumulated from the start of generator power to shutoff at the end of the day (Generator Hour Meter), identified in the SAC as GENLAD.
CYCLES:	The cycle is from the time the wash selection is activated until the finish of the drying cycle. This is included in the narrative.
MILES:	The miles accumulated from towing the LADDS over the various courses. This is included in the narrative.

<u>Column Title</u>	<u>Explanation/Definition</u>
Maintenance Information	
TYPE:	The word that describes the type of maintenance that was performed therein (SCH or UNS).
CHAR:	The word that describes the chargeability of maintenance that was performed therein and is IAW the final scoring results. CHAR (chargeable) or nonchargeable.
USED:	Is the same as the LOM prescribed. The abbreviations for each LOM are: operator/crew (crew), ORG, DS, and GS.
PRESCRIBED:	The name of the lowest LOM that is prescribed in the MAC as being authorized to perform all of the maintenance tasks or actions described therein.
RECOMMENDED:	The name of the lowest LOM that this test agency recommends to perform all the maintenance tasks or actions described therein.
CLOCK HOURS:	The active clock hours that were required to perform all of the maintenance tasks or actions described therein.
MAN-HOURS:	The man-hours that were required to perform all the maintenance tasks or actions described therein.
DIAG-CLOCK:	The clock hours and man-hours required to perform the diagnostic or fault finding portion of the maintenance.
HR:MIN:	The LADDS operational hours and minutes when the problem or incident occurred, began, or was detected.
STEP:	The FD/SC (Failure Definition/Scoring Criteria) step number that was assigned by the Test Agency.
CLASS:	The FD/SC classification that was assigned by the Test Agency.
CHARGE:	The FD/SC chargeability that was assigned by the Test Agency.
DESCRIPTION:	The narrative description of the problem or incident and any resultant maintenance tasks.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 1

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
DT IX LABS LAUNDRY/DRY CLEANERITEM ID
GENLAD*****
INC-DATE: 900806

TIRN: LS-A000008 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: ACCESS LATCH

FCC: 1400

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE GENERATOR BATTERY ACCESS DOOR, UPPER LATCH DID NOT FUNCTION PROPERLY.

DURING THE INITIAL INSPECTION, THE GENERATOR BATTERY ACCESS DOOR, UPPER LATCH DID NOT LIFT PROPERLY, MAKING ACCESS TO THE BATTERY DIFFICULT. THE CAUSE WAS UNDETERMINED.

THE CORRECTIVE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900821

TIRN: LS-A000069 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: GENERATOR

FCC: 1400

OPSHRS 32.5

PRODHR 19.5

GENHRS 30.1

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCHA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:32	00:32

DESCRIPTION OF INCIDENT

GENERATOR GAUGES INOPERATIVE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 2

PROJECT NUMBER
8-ES-113-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
GENLAD

ON 21 AUGUST 1990, AT 0846 NST, (HOURS OPERATING 32:52; HOURS PRODUCTION 19:53), THE OPERATOR, AFTER PERFORMING A B-PMCS, INITIALIZED THE GENERATOR FOR FIRST TIME OF THE DAY. THE GENERATOR APPEARED TO BE OPERATING NORMALLY, WITH THE EXCEPTION OF THE GAUGES ON THE ELECTRICAL PANEL. THE CAUSE WAS UNDETERMINED AT THIS TIME.

THE OPERATOR ENERGIZED THE FAULT/RESET SWITCH WITH NO EFFECT. THE GENERATOR WAS POWERED DOWN.

AT 08:48 THE OPERATOR PERFORMED A VISUAL INSPECTION OF THE GENERATOR, CHECKED THE OIL LEVEL, AND THE RESET SWITCH. ALL OF THE INDICATIONS APPEARED TO BE NORMAL.

AT 08:51, THE GENERATOR WAS REINITIALIZED WITH NO ADVERSE COMPLICATIONS, THE OPERATIONS WERE CONTINUED.

ON THE FOLLOWING DATES AND TIMES THE ABOVE DISCREPANCIES WERE DUPLICATED, AND THE SAME CORRECTIVE ACTIONS WERE TAKEN.

22 AUGUST 1990, 11:53 NST, (HOURS OPERATING 34:08; HOURS PRODUCTION 20:19).

24 AUGUST 1990, 13:26 NST, (HOURS OPERATING 37:00; HOURS PRODUCTION 22:32).

27 AUGUST 1990, 12:22 NST, (HOURS OPERATING 42:34; HOURS PRODUCTION 26:17).

THE CAUSE WAS UNDETERMINED, AND OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900830

TIRN: L5-0000081 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: GENERATOR

FCC: 1400

OPSHRS 92.1

PRODHR 70.3

GENHRS 92.9

SCORING INFORMATION

STEP	CLASS	CHARGE
01C (C)	TEST PECULIAR	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NOM	UNS	CREW	CREW	CREW	00:33 00:33

DESCRIPTION OF INCIDENT

GENERATOR AMPERES GAUGE SHOWING SYSTEM IS DISCHARGING.

DURING THE (D) PMCS, THE OPERATOR OBSERVED THAT THE GENERATOR AMPERES GAUGE NEEDLE WAS IN THE RED AREA, INDICATING THAT THE GENERATOR BATTERY WAS IN A STATE OF DISCHARGE.

AFTER SEVERAL MINUTES THE GAUGE NEEDLE MOVED INTO THE GREEN AREA,

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 3

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
GENRAD

INDICATING THE SYSTEM WAS NOW CHARGING.
NO ACTION WAS TAKEN.

AT 2030 HOURS, OPSHRS - 94:27; PRODHRS - 71:27; GENHRS - 95.0; CYCLES 140, THE OPERATOR MONITORED THE GENERATOR AMPERE GAUGE MORE CLOSELY THROUGHOUT THE CYCLE.

THE FOLLOWING WAS OBSERVED:

AT THE START OF THE WASH CYCLE THE NEEDLE WAS AT 0 AMPS. AT THE PAUSE BETWEEN THE WASH AND EXTRACT CYCLE, THE NEEDLE WAS AT +1 AMPS. WHEN THE EXTRACTION CYCLE BEGAN, THE NEEDLE JUMPED TO +10 AMPS., AND THEN DOWN TO -2 AMPS. THE NEEDLE HELD AT -2 AMPS. AT THE END OF THE EXTRACTION CYCLE, THE NEEDLE WAS AT -1 AMPS., AND HELD AT -1 AMPS. THROUGHOUT THE RINSE CYCLE. AS THE EXTRACTION CYCLE BEGAN THE NEEDLE WAS AT -2 AMPS. WHEN THE EXTRACTION WAS IN FULL CYCLE THE NEEDLE ROSE TO +10 AMPS, THEN LOWERED BACK DOWN TO -2 AMPS. THIS HAPPENED TWICE DURING THE SECOND EXTRACTION CYCLE. AT THE BEGINNING OF THE DRY CYCLE THE NEEDLE WAS AT 0 AMPS. TWO MINUTES INTO THE DRY CYCLE THE NEEDLE WAS AT +1 AMPS. DURING COMPLETION OF THE DRY CYCLE AND COOL DOWN CYCLE THE NEEDLE WAS AT 0 AMPS.

NO CORRECTIVE ACTION WAS TAKEN.
OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901010
TIRM: L5-A000122 03
INC CLASS: NIMOR
ACTION-TAKEN: INSPECTED
PART NAME: HOUSING ASSEMBLY
FGC: 0800
OPSHRS 283.3
PRODHR 239.0
GENHRS 293.7

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECOM	ACTIVE
CHA UNS	CREW	CREW	CREW	CLKHRS MANHRS
				00:01 00:01

DESCRIPTION OF INCIDENT

THE GENERATOR ACCESS DOORS WERE DISCOVERED OPEN AFTER COMPLETING TRAIL MILES.

AFTER COMPLETION OF 47 MILES OF CROSS COUNTRY (TRANSPORTABILITY) IT WAS DISCOVERED, BY THE OPERATOR THAT ALL OF THE GENERATOR HOUSING ACCESS PANELS

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SUPPORTABILITY ANALYSIS CHART

PAGE: 4

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
GENLAD

WERE OPEN. THIS WAS CAUSED BY THE BOUNCING AND VIBRATION OF THE TRAILER WHILE ON THE TEST COURSE.

THE ACCESS PANELS WERE INSPECTED FOR ANY POSSIBLE DAMAGE CAUSED BY OPERATIONS ON THE COURSE. THE OPERATOR CLOSED AND LATCHED ALL THE ACCESS PANELS. NO MAINTENANCE ACTIONS WERE REQUIRED.

REVISION #1 DATE 11/08/90 MILES 447.0 HOURS 293.70 TIME 1000 NST

BLOCK #	FROM	TO
41	02-	03-
57	OTHER, SEE BLK 90	INSPECTED
60	0800	1400

REVISION #2 DATE 11/16/90 MILES 447.0 HOURS 293.70 TIME 1455 NST

BLOCK #	FROM	TO
41	03-	02-
42	OFF	CCHA
60	1400	0800

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900915

TIRN: LS-A000125 01

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: CUBICAL ASSEMBLY DOOR

FCC: 1400

OPSHRS 283.3

PROGHR 239.0

GENHRS 293.7

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCHA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CNA UNS	ORG	ORG	CREN	00:01	00:01

DESCRIPTION OF INCIDENT

GENERATOR CUBICAL ASSEMBLY DOOR BRACE IS MISSING.

DURING THE INSPECTION OF THE LAUNDRY UNIT AFTER THE TRANSPORTABILITY TESTING CYCLE, THE OPERATOR DISCOVERED THE GENERATOR AIR INTAKE ACCESS DOOR WAS MISSING THE LOCK BRACE. BEFORE THE TRANSPORTABILITY TESTING CYCLE THE LOCK BRACE WAS CONNECTED TO AND STORED INSIDE THE GENERATOR DOOR. THE DOOR LOCK BRACE WAS LOST DURING THE TRANSPORTABILITY TEST, PROBABLY CAUSED BY THE

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
SEM-LAD

VIBRATION AND BOUNCING WHILE ON THE COURSES.
NO CORRECTIVE ACTION WAS TAKEN AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900806

TIR#: LS-A000001 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: LADDS

FCC: 0000

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
WON SCH	CREW	CREW	CREW	CLKHRS HANHRS
				01:35 01:35

DESCRIPTION OF INCIDENT

THE INITIAL INSPECTION WAS PERFORMED.

THE INITIAL INSPECTION WAS PERFORMED, AND THE FOLLOWING DISCREPANCIES WERE REPORTED ON SEPARATE TIRS:

- A) THE TRAILER, LEFT, FRONT HAND BRAKE ACTUATOR ARM WAS NOT FUNCTIONING PROPERLY.
- B) THE RIGHT, FRONT, TRAILER LEVELING DEVICE WAS FOUND TO BE BROKEN.
- C) THE GENERATOR BATTERY ACCESS DOOR, UPPER LATCH DID NOT FUNCTION PROPERLY.
- D) THE LOWER ELECTRICAL PANEL FASTENER LATCH WAS DISCOVERED TO BE BENT.
- E) A CRACK WAS FOUND IN THE SPOT WELD REPAIR PREVIOUSLY MADE TO THE NBC ABSORBER.
- F) THE NBC KNOB ON THE DISTILL CONTROL ASSEMBLY WAS DISCOVERED TO BE MISSING.
- G) NUMEROUS DENTS WERE FOUND IN THE RADIATOR CORE COOLING FENCE.
- H) THE HEATER BLOWER HOSE RETAINER WAS FOUND TO BE BROKEN.
- I) THE FLOAT LEVEL TUBE, UPPER MOUNTING BRACKET NUT WAS DISCOVERED MISSING.

THE RIGHT SIDE, FRONT TRAILER ACCESS STEP WAS DISCOVERED TO HAVE BROKEN LOOSE AT THE REAR WELD, AND WAS NOT REPORTED ON A SEPARATE TIR.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 7

PROJECT NUMBER
8-ES-115-LAB-003PROJECT NAME
DT II LADD'S LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900806

TIRM: L3-A000002 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: LEVEL

FGC: 1700

OPSHRS 0.0

PRODIR 0.0

GENHRS 0.0

SCORING INFORMATIONSTEP
01A (C)CLASS
PRE TESTCHARGE
NA

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE
NON UNSUSED PRESC RECON
CREW CREW CREWCLKHRS MANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

THE TRAILER LEVEL DEVICE WAS DISCOVERED TO BE BROKEN.

DURING THE INITIAL INSPECTION THE TRAILER LEVEL DEVICE WAS DISCOVERED TO BE BROKEN. THE TRAILER COULD NOT BE LEVELED, IMPAIRING THE OPERATION OF THE LAUNDRY AND DECONTAMINATION DRY CLEANING SYSTEM.

THE CORRECTIVE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

THE TRAINING OPERATIONS WERE CONTINUED USING A CARPENTER'S LEVEL, UNTIL CORRECTIVE ACTION CAN BE TAKEN.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900806

TIRM: L3-A000003 03

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: NBC KHOB

FGC: 0200

OPSHRS 0.0

PRODIR 0.0

GENHRS 0.0

SCORING INFORMATIONSTEP
01A (C)CLASS
PRE TESTCHARGE
NA

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE
NON UNS
NON UNSUSED PRESC RECON
CREW CREW CREW
CS CS CSCLKHRS MANHRS
00:01 00:01
00:12 00:12

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 2

PROJECT NUMBER
8-ES-115-LAD-093

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

STEP 12
LAD001

DESCRIPTION OF INCIDENT

THE DISTILL CONTROL ASSEMBLY NBC KNOB WAS DISCOVERED TO BE MISSING.

DURING THE INITIAL INSPECTION, THE DISTILL CONTROL ASSEMBLY NBC KNOB WAS DISCOVERED TO BE MISSING BY THE OPERATOR.
NO CORRECTIVE ACTION TAKEN WHILE AWAITING PARTS.

REVISED 5 OCT 90 TO UPDATE THE DATA/NARRATIVE FOR DEFERRED MAINTENANCE ACTIONS TAKEN.

ON 09-17-90, AT 1143 (HST), WITH THE OPSHRS 192:29, PRODHRS 161:00, GENHRS 197.3, CYCLES 319, AND 0 MILES, THE N. R. D. E. C. REPRESENTATIVE REMOVED THE DAMAGED NBC STILL CONTROL BUTTON.

THE NEW NBC BUTTON (P/N-UNKNOWN) WAS INSTALLED, AND THE ELECTRICAL CONNECTIONS WERE TIGHTENED.

THE DISCREPANCY HAS CORRECTED, AND THE OPERATIONS WERE CONTINUED.

THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCKS	FROM	TO
35	DEFER MAINT	MAINTAINED
90	AS WAS	ADD NEW NARRATIVE
PARTS		ADD NEW PARTS

REVISED 05 FEB 91 TO UPDATE PPTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900806

TYPE: LS-A000004 01

INC CLASS: INFORMATION

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: LADDS

FCC: 0000

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON	UNS	CREW	CREW	CREW
				00:37 00:37

DESCRIPTION OF INCIDENT

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SUPPORTABILITY ANALYSIS CHART

PAGE: 9

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THE RECEIPT INVENTORY WAS CONDUCTED.

THE RECEIPT INVENTORY WAS CONDUCTED, AND THE FOLLOWING SYSTEM SUPPORT PACKAGE ITEMS WERE RECEIVED:

- 1) P100 FILTER BAGS (QTY. 30).
- 2) TWO, 15 POUND CANS OF FREON 12 (LOT WAM91248) 1-FULL, 1-USED.
- 3) 1 PIECE OF 3/4 INCH TUBING.
- 4) 1 PIECE 1 1/2 INCH TUBING (10 FEET).
- 5) COIL ASSEMBLY WITH JUNCTION BOX (QTY. 2) P/N 120/50-60.
- 6) COIL ASSEMBLY WITH JUNCTION BOX (QTY. 1) P/N 208-240/50-60.
- 7) FILTER DRIVERS (QTY. 2) TYPE C-305.
- 8) VIBRATION ELIMINATOR - 1 1/8 INCH, QTY. 1.
- 9) VIBRATION ELIMINATOR - 7/8 INCH, QTY. 1.
- 10) VIBRATION ELIMINATOR - 3/8 INCH, QTY. 1.
- 11) TWO PAIRS OF GOGGLES.
- 12) ELECTRICAL PUMP, S/N 555251, MODEL 1303062111.
- 13) TWO, FIVE GALLON CONTAINERS OF VALCLENE DRY-CLEANING FLUID - LOT WL-3542.
- 14) ONE 90 DEG., 1 1/2 INCH ELBOW.
- 15) COPPER GROUNDING RODS AND WIRING (QTY. 2 BOXES, 3 RODS EACH).
- 16) TWO SETS OF REGULATORS WITH GAUGES.
- 17) ONE WRENCH BUNG (MSH 5120-00-507-4886).
- 18) ONE VALVE OPERATOR - S/N E16156 MODEL 979-899.
- 19) ONE DRIVE BELT (P/N 2058969).
- 20) PIN SWIVEL ASSEMBLY (P/N 11603276) QTY. 2 BOXES.
- 21) ONE CARD READER ASSEMBLY MODEL 15-1050.
- 22) FOUR CYCLE PROGRAMS (P/N 2158468).
- 23) ONE BOX OF 2 INCH BALL VALVES (P/N 76-108-01).
- 24) ONE, 3/4 INCH BALL VALVE (P/N UNKNOWN).
- 25) FLOAT VALVES (QTY. 2).
- 26) ONE DRUM PUMP, MODEL P80 (P/N 101890).
- 27) ONE PUMP TUBE ASSEMBLY P/N 110390, MODEL P80H-40.

ALL ITEMS WERE RECEIVED IN SATISFACTORY CONDITION. NO SYSTEM SUPPORT PACKAGE, OR BASIC INVENTORY ITEMS LISTS ACCOMPANIED THE EQUIPMENT UPON RECEIPT.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 10

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BY II LABS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900806

TIRM: L3-A000005 01

INC CLASS: MINOR

ACTION-TAKEN: ALIGNED

PART NAME: LATCH

FGC: 0900

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	GS	ORG	ORG	00:04	00:04

DESCRIPTION OF INCIDENT

THE LOWER ELECTRICAL PANEL DOOR FASTENER LATCH WAS FOUND TO BE BENT.

DURING THE INITIAL INSPECTION THE LOWER ELECTRICAL PANEL DOOR FASTENER LATCH WAS FOUND TO BE BENT BY THE OPERATOR.

ON 08-07-90, THE WREDC REP BENT THE LATCH BACK INTO PLACE USING A PAIR OF CHANNEL LOCKS. THE DISCREPANCY WAS CORRECTED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900806

TIRM: L3-A000006 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: COOLING FENCE

FGC: 0400

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	GS	ORG	ORG	00:01	00:01

DESCRIPTION OF INCIDENT

NUMEROUS DENTS WERE FOUND IN THE REFRIGERATION UNIT COOLING FENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-113-LAD-003

PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANER

ITEM #9
LADD01

DURING THE INITIAL INSPECTION, NUMEROUS DENTS WERE DISCOVERED IN THE REFRIGERATION UNIT COOLING VANES. THE CAUSE WAS UNDETERMINED.
THE DENTS DID NOT IMPAIR THE OPERATION OF THE UNIT, AND NO MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900806

TIR#: L3-A000007 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: RETAINER CLAMP

FCC: 0200

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CS	ORG	ORG	00:01	00:01

DESCRIPTION OF INCIDENT

THE STILL VENT NOSE RETAINER CLAMP WAS FOUND TO BE BROKEN.

DURING THE INITIAL INSPECTION, THE STILL VENT NOSE RETAINER CLAMP WAS FOUND TO BE BROKEN. THE CAUSE WAS UNDETERMINED.
THE CORRECTIVE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 12

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANERITEM ID
LAD001*****
INC-DATE: 900806

TIRB: LS-A000009 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: ABSORBER ASSEMBLY

FGC: 0600

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

A CRACK WAS FOUND IN THE SPOT WELD REPAIR PREVIOUSLY MADE TO THE ABSORBER.

DURING THE INITIAL INSPECTION A CRACK WAS FOUND IN THE SPOT WELD REPAIR PREVIOUSLY MADE TO THE NBC ABSORBER. THE CAUSE WAS UNDETERMINED.

THE CRACK WAS LOCATED ON THE LEFT OUTER SIDE OF THE ABSORBER, APPROXIMATELY ONE FOOT FROM THE BOTTOM OF THE ABSORBER.

THE CORRECTIVE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

THE UNIT WAS OPERATED WITHOUT THE NBC ABSORBER AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900806

TIRB: LS-A000010 01

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: MUT,7/16 INCH

FGC: 0200

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UNS	CREW	ORG	ORG	00:04	00:04

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SUPPORTABILITY ANALYSIS CHART

PAGE: 13

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

THE FLOAT LEVEL TUBE, UPPER MOUNTING BRACKET NUT WAS MISSING.

DURING THE INITIAL INSPECTION, THE FLOAT LEVEL TUBE, UPPER MOUNTING BRACKET NUT WAS DISCOVERED TO BE MISSING.

ON 08-08-90, THE MRDEC REPRESENTATIVE INSTALLED THE REPLACEMENT NUT AND LOCKWASHER, AND THE DISCREPANCY WAS CORRECTED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900807

TIR#: L3-A000011 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: PUMP,ELECTRIC

FCC: 0000

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON	UNS	CREW	CREW	CREW	00:01 00:01

DESCRIPTION OF INCIDENT

THE PORTABLE, ELECTRIC FREON PUMP DID NOT OPERATE AS PER SPECIFICATIONS.

DURING THE SERVICING OF THE LADDS SYSTEM, THE MRDEC REPRESENTATIVE REPORTED THAT THE PORTABLE, ELECTRICAL FREON PUMP DID NOT PROCESS THE CAPABILITY REQUIRED TO PUMP THE SPECIFIED GALLONS PER MINUTE.

THE OPERATIONS WERE CONTINUED, AND THE MRDEC REPRESENTATIVE STATED THAT A REPLACEMENT PUMP WOULD BE RECEIVED AT A LATER TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANER

ITER ID
LADD01

INC-DATE: 900807

TIRN: L3-A000012 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: CONTROL TRAP ASSEMBLY

FCC: 03

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UMS	GS	GS	GS	04:15	04:15

DESCRIPTION OF INCIDENT

MODIFICATION OF THE BUTTON TRAP.

DURING TRAINING PHCS THE MRDEC REPRESENTATIVE DISCOVERED THAT THE BUTTON TRAP COULD NOT BE INSERTED COMPLETELY, DUE TO THE INNER CONTROL TRAP RACK BEING BENT. IT WAS DISCOVERED DURING FURTHER TROUBLESHOOTING THAT A MODIFICATION WAS NEEDED TO THE CONTROL TRAP. THE PROJECT ENGINEER TOOK THE CONTROL TRAP TO THE MAINTENANCE SHOP TO HAVE THE BACK PART OF THE TRAP CUT DOWN 1". ONCE THIS WAS ACCOMPLISHED THE CONTROL TRAP WAS RETURNED TO THE SITE AND INSERTED WITH NO FURTHER PROBLEMS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900807

TIRN: L3-A000013 01

INC CLASS: INFORMATION

ACTION-TAKEN: TIGHTENED

PART NAME: ABSORBER VALVE CLAMP

FCC: 0600

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UMS	GS	ORG	ORG	00:02	00:02

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 19

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

A CLASS 3 FREON LEAK WAS OBSERVED AT THE UPPER, LEFT ABSORBER VALVE.

UPON THE INITIALIZATION OF THE LADDS SYSTEM POWER, AT THE BEGINNING OF THE TRAINING OPERATIONS, A CLASS III FREON LEAK WAS OBSERVED AT THE UPPER, LEFT ABSORBER VALVE.

THE NRDEC REPRESENTATIVE TIGHTENED THE VALVE BY HAND, CORRECTING THE DISCREPANCY.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900807
TIRN: LS-A000014 01
INC CLASS: INFORMATION
ACTION-TAKEN: OPERATED
PART NAME: GASKET
FCC: 0700
OPSHRS 0.0
PRODHR 0.0
GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NOM UNS	CS	ORG	OPG	00:03	00:03

DESCRIPTION OF INCIDENT

A CLASS 3 FREON LEAK WAS OBSERVED AT THE DRUM DOOR ASSEMBLY GASKET.

DURING TRAINING OPERATIONS, A CLASS III FREON LEAK WAS OBSERVED AT THE DRUM DOOR GASKET. THE CAUSE WAS UNDETERMINED.

THE NRDEC REPRESENTATIVE APPLIED DOW CORNING HIGH VACUUM GREASE SEALANT TO THE DOOR GASKET, CORRECTING THE DISCREPANCY.
THE OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900808

TIRN: L3-A000015 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: CONTROL TRAP ASSEMBLY

FCC: 0300

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NOM UNS	GS	CREW	CREW	CLKHRS MANHRS
				00:06 00:06

DESCRIPTION OF INCIDENT

FREON WAS FOUND IN THE CONTROL TRAP ASSEMBLY.

DURING THE TRAINING B-PMCS, FREON WAS FOUND IN THE CONTROL TRAP ASSEMBLY, THE CAUSE WAS UNDETERMINED.

THE MROEC REPRESENTATIVE TRANSFERRED FREON FROM THE WASH TANK TO THE DUMP TANK TO ALLOW THE FREON, RETAINED IN THE CONTROL TRAP, TO BE PUMPED TO THE WASH TANK.

THE DISCREPANCY WAS CORRECTED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808

TIRN: L3-A000016 01

INC CLASS: INFORMATION

ACTION-TAKEN: LUBRICATED

PART NAME: ELBOW

FCC: 0100

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NOM UNS	CREW	CREW	CREW	CLKHRS MANHRS
				00:01 00:01

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 17

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BY II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

A CLASS 2 OIL LEAK WAS DISCOVERED ON THE DUMP TANK TO STILL HOSE ELBOW JOINT

DURING THE TRAINING B-PHCS, A CLASS II OIL LEAK WAS DISCOVERED ON THE DUMP TANK TO THE STILL FREON HOSE ELBOW JOINT. THE CAUSE WAS UNDETERMINED, AND THE NRDEC REPRESENTATIVE STATED THAT THE OIL MAY HAVE BEEN USED AS A SEALANT FOR THE ELBOW THREADS.

NO CORRECTIVE MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808
TIRN: LS-A000017 01
INC CLASS: INFORMATION
ACTION-TAKEN: OPERATED
PART NAME: MANUAL OVERRIDE
FGC: 0100
OPSHRS 0.0
PROGHR 0.0
GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UMS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE SOLVENT TANK FLOW VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

DURING THE TRAINING OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANERITEM ID
LA0001*****
INC-DATE: 900806

TIRM: L3-A000018 01

INC CLASS: INFORMATION

ACTION-TAKEN: REPAIRED

PART NAME: ACTUATOR

FCC: 1700

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UMS	GS	ORG	ORG	00:17	00:17

DESCRIPTION OF INCIDENT

THE LEFT, FRONT HAND BRAKE ACTUATOR DID NOT FUNCTION PROPERLY.

DURING THE INITIAL INSPECTION THE LEFT, FRONT HAND BRAKE ACTUATOR ARM DID NOT FUNCTION PROPERLY.

ON 08-08-90, THE MRDEC REPRESENTATIVE REMOVED THE ACTUATOR ARM (P/N 7392815).

THE MRDEC REPRESENTATIVE CLEANED THE UNDAMAGED ACTUATOR ARM PARTS.

THE MRDEC REPRESENTATIVE INSTALLED THE NEW ARM (P/N 7392815), AND THE DISCREPANCY WAS CORRECTED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808

TIRM: L3-A000019 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: SCREW

FCC: 0700

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UMS	GS	ORG	ORG	00:04	00:04

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 19

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BY II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

DESCRIPTION OF INCIDENT

TWO DRUM CAP SCREENS WERE DISCOVERED TO BE MISSING.

FOLLOWING THE SECOND CYCLE, DURING THE TRAINING OPERATIONS, THE #3 AND #6 (CLOCKWISE) DRUM CAP SCREENS WERE DISCOVERED TO BE MISSING. THE CAUSE WAS UNKNOWN.

THE NRDEC REPRESENTATIVE STATED THAT THE TWO SCREENS HAD BEEN PLACED ON ORDER AT AN EARLIER TIME.

LATER THE SAME DAY, ONE OF THE TWO SCREENS WAS RECOVERED AT THE OPERATION SITE, AND WAS REINSTALLED IN THE #3 POSITION BY THE NRDEC REPRESENTATIVE.

THE #6 SCREEN WAS RECOVERED FROM THE INSIDE OF THE DRUM, AND WAS RE-INSTALLED.

THE DISCREPANCY WAS CORRECTED, AND THE OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808
FIRM: L3-A000020 01
INC CLASS: INFORMATION
ACTION-TAKEN: REPAIRED
PART NAME: FILTER BAG,P100
FGC: 1000
OPSHRS 0.0
PRODMR 0.0
GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON	UNS	CS	CREW CREW	CLKHRS MANHRS
				00:12 00:12

DESCRIPTION OF INCIDENT

THE P100 BAG FILTER WAS REPLACED.

DURING THE TRAINING OPERATIONS, THE NRDEC REPRESENTATIVE REPORTED THAT THE BAG FILTER WAS DUE FOR REPLACEMENT AND WAS NOT ALLOWING THE SOLVENT TO FLOW PROPERLY.

THE BAG FILTER ASSEMBLY WAS DRAINED, AND THE TWO FLANGE PLATE EYE BOLTS WERE REMOVED TO GAIN ACCESS TO THE BAG FILTER. THE NEW FILTER WAS INSTALLED (P/N UNKNOWN).

THE FLANGE PLATE EYE BOLTS WERE REINSTALLED, AND THE FLANGE PLATE COVER WAS SEALED WITH DOW CORNING HIGH VACUUM GREASE.

THE DISCREPANCY WAS CORRECTED, AND THE OPERATIONS WERE CONTINUED.

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808

TIRN: L5-A000021 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: GENERATOR

FGC: 1400

OPSHRS 0.0

PROGHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON	UNS	CREW	CREW	CREW	00:01 00:01

DESCRIPTION OF INCIDENT

PRELIMINARY NOISE SURVEY WAS CONDUCTED.

PRELIMINARY SOUND SURVEY: A PRELIMINARY SOUND SURVEY WAS CONDUCTED AROUND THE LADDS WHILE IN FULL OPERATION. SOUND LEVEL READINGS WERE OBTAINED AT THE 1.5 METER RANGE AT FOUR LOCATIONS AROUND THE LADDS. ADDITIONALLY, SOUND LEVEL READINGS WERE OBTAINED FROM ABOVE THE OPERATING LADDS AT THE 1 METER LEVEL IN THE MIDDLE OF THE UNIT. ALL READINGS WERE MEASURED USING THE dB(A) SCALE. THE READINGS OBTAINED FROM THE VARIOUS LOCATIONS ARE AS FOLLOWS:

SOUND LEVELS READINGS

LOCATION	LEVEL (dBA)
FRONT	92.1
RIGHT	93.3
REAR*	97.8
LEFT**	95.8
ABOVE	93.4

* OPERATOR'S WORK AREA

** ADJACENT TO GENERATOR EXHAUST

ALL LEVELS EXCEED 85 dB(A) AND REQUIRE OPERATORS WEAR HEARING PROTECTION AT ALL TIMES WHEN OPERATING OFF GENERATOR POWER.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANERITEM ID
LAD001*****
INC-DATE: 900808

TIRB: L5-A000022 01

INC CLASS: INFORMATION

ACTION-TAKEN: TIGHTENED

PART NAME: BOLT

FGC: 0700

OPSHRS 0.0

PROGHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CS	ORG	ORG	00:03	00:03

DESCRIPTION OF INCIDENT

THE DRUM DOOR RETAINING PIN BOLT WAS FOUND TO BE LOOSE.

DURING THE TRAINING OPERATIONS, THE MRDEC REPRESENTATIVE DISCOVERED THAT THE DRUM DOOR RETAINING PIN WAS FOUND TO BE LOOSE.

THE BOLT WAS TIGHTENED WITH A WRENCH, AND THE DISCREPANCY WAS CORRECTED.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808

TIRB: L5-A000023 01

INC CLASS: INFORMATION

ACTION-TAKEN: TIGHTENED

PART NAME: SCREW

FGC: 0700

OPSHRS 0.0

PROGHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CS	ORG	ORG	00:04	00:04

DESCRIPTION OF INCIDENT

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD001

FOUR DRUM CAP SCREWS WERE FOUND TO BE LOOSE.

DURING THE TRAINING OPERATIONS, THE NROEC REPRESENTATIVE DISCOVERED THAT THE DRUM CAP SCREWS, NUMBERS 1 THROUGH 4, WERE LOOSE.

THE SCREWS WERE TIGHTENED WITH A PHILLIPS SCREW DRIVER, AND THE DISCREPANCY WAS CORRECTED.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900808

TIME: 15-0000024 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: LADDS

FCC: 0000

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLERS	MANHRS
NON	UNS	CREW	CREW	00:08	00:08

DESCRIPTION OF INCIDENT

THE OPERATOR BECAME NAUSEATED FROM FREON FUMES.

DURING THE TRAINING OPERATIONS, THE OPERATOR OPENED THE DRUM DOOR TO REMOVE THE CLEANED CLOTHING FROM THE DRUM.

THE OPERATOR STATED THAT WHILE LEANING TOWARD THE DRUM, THE FREON FUMES CAUSED HIM TO BECOME DIZZY. AS THE OPERATOR STEPPED AWAY FROM THE UNIT TO ACQUIRE FRESH AIR, THE OPERATOR REPORTED NAUSEA. THE OPERATOR RECOVERED FROM THE DIZZINESS AND THE NAUSEA AFTER A SHORT PERIOD OF TIME. HOWEVER, THE OPERATOR REPORTED A HEADACHE, WHICH CONTINUED FOR THE REMAINDER OF THE DAY.

THE OPERATIONS WERE CONTINUED.

THE HUMAN FACTORS ENGINEER NOW REQUIRES THAT THE OPERATOR OPEN THE DRUM DOOR AND STEP AWAY FROM THE UNIT FOR 30 SECONDS. THE OPERATOR MAY THEN PROCEED TO REMOVE THE CLEANED CLOTHING FROM THE DRUM, WHILE ATTEMPTING TO KEEP HIS HEAD OUT OF THE INNER AREA OF THE DRUM.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

INC-DATE: 900809
TIRD: L3-A000025 01
INC CLASS: INFORMATION
ACTION-TAKEN: NO ACTION TAKEN
PART NAME: GASKET, DRUM DOOR
FCC: 0700
OPSHRS 0.0
PRODHR 0.0
GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
MON UNS	CREW	CREW	CREW	00:02	00:02

DESCRIPTION OF INCIDENT

A CLASS 2 SOLVENT LEAK WAS OBSERVED AT THE DRUM DOOR WINDOW GASKET.

DURING THE TRAINING OPERATIONS, THE OPERATOR OBSERVED A CLASS II SOLVENT LEAK AT THE DRUM DOOR WINDOW GASKET, WHICH CONTINUED FOR 20 SECONDS.

THE OPERATIONS WERE CONTINUED, AND NO CORRECTIVE MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900809
TIRD: L3-A000026 01
INC CLASS: INFORMATION
ACTION-TAKEN: LUBRICATED
PART NAME: GASKET, DRUM DOOR
FCC: 0700
OPSHRS 0.0
PRODHR 0.0
GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
MON UNS	CS	ORG	ORG	00:11	00:11

DESCRIPTION OF INCIDENT

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BY II LADD LAUNDRY/DRY CLEANER

ITEM ID
LADD01

A CLASS 2 SOLVENT LEAK WAS OBSERVED AT THE DRUM DOOR WINDOW GASKET.

DURING THE TRAINING OPERATIONS, THE HDEC REPRESENTATIVE OBSERVED A CLASS II SOLVENT LEAK AT THE DRUM DOOR WINDOW GASKET. THE LEAK CONTINUED FOR 15 SECONDS AND CEASED.

DOW CORNING HIGH VACUUM GREASE SEALANT WAS APPLIED TO THE GASKET, CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900809

SCORING INFORMATION

TIRN: L5-A000027 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 0.0

PRODMR 0.0

GENHRS 0.0

STEP

01A (C)

CLASS

PRE TEST

CHARGE

NA

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE

USED PRESC RECON

CLKHRS NAMHRS

NON UMS

CREN CREN CREN

00:04 00:04

DESCRIPTION OF INCIDENT

THE VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-IS-115-LAB-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900810

TIRN: L5-A000028 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: LADDS

FCC: 0000

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON	UNS	CREW	CREW	CREW
				CLKHRS MANHRS
				02:41 02:41

DESCRIPTION OF INCIDENT

SYSTEM WAS DRAINED OF FREON AND REFILLED.

THE SYSTEM WAS DRAINED OF ALL FREON, AS PER THE PROJECT ENGINEER, TO ESTABLISH THE INITIAL AMOUNT OF FREON REQUIRED FOR OPERATIONS.

AFTER THE DRAINING WAS COMPLETED, THE SYSTEM WAS REFILLED WITH FREON TO PROPER LEVELS NEEDED TO BEGIN OPERATIONS.

ACCURATE MEASUREMENTS WERE TAKEN.

A TOTAL OF 2100 POUNDS OF FREON 113 WAS INSTALLED.

NO FURTHER ACTION WAS TAKEN.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900809

TIRN: L5-A000029 01

INC CLASS: INFORMATION

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: GENERATOR

FCC: 1400

OPSHRS 0.0

PRODHR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON	UNS	ORG	ORG	ORG
				CLKHRS MANHRS
				00:13 00:13

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

OVERFILLING OF FUEL TO THE GENERATOR FUEL TANK CAUSING LEAK IN FILLER NECK.

THE FUEL TRUCK ARRIVED TO REFUEL THE GENERATOR FUEL TANK.
THE FUEL TANK DRIVER WAS TOLD BY THE OPERATOR NOT TO FILL THE FUEL TANK BEYOND THE POINT WHERE THE FUEL TANK JOINS THE FILLER NECK, AS PREVIOUSLY INSTRUCTED BY THE MRDEC REPRESENTATIVE BECAUSE OF PREVIOUS LEAKS.
THE AMOUNT OF FUEL ADDED TO THE GENERATOR FUEL TANK WAS 15.3 GALLONS.
AN OVERFLOW OCCURRED AT THE POINT WHERE THE FUEL TANK AND FILLER NECK JOIN.
THE OPERATORS CLEANED THE SPILLAGE WITH SHOP RAGS TO CORRECT THE PROBLEM.

NO FURTHER ACTION WAS TAKEN.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813

TIR#: L5-A000030 01

INC CLASS: INFORMATION

ACTION-TAKEN: 0

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 0.0

PRODNR 0.0

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UMS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.
THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF THE SOLVENT FROM THE WASH TANK.
THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900813

SCORING INFORMATION

TIR#: LS-A000031 02

INC CLASS: MINOR

STEP
03- (C)

CLASS
OMF/UNA

CHARGE
HARDWARE

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: DRUM

FGC:

OPSHRS 2.1

PRODHR 1.2

GENHRS 2.1

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE
CHA UNS

USED PRESC RECON
ORG ORG ORG

CLKHRS MANHRS
02:03 02:05

DESCRIPTION OF INCIDENT

THE DRUM WOULD NOT ROTATE.

FIVE MINUTES AND TWO SECONDS INTO THE DRY CYCLE, DURING CYCLE #3, THE OPERATOR OBSERVED THAT THE DRUM WAS NOT ROTATING. THE CAUSE WAS UNKNOWN.

DURING THE CYCLE #4 WASH CYCLE, THE OPERATOR OBSERVED THAT ONCE THE SOLVENT HAD BEEN PUMPED INTO THE DRUM, THE DRUM DID NOT ROTATE.

MAINTENANCE PERSONNEL PERFORMED TROUBLESHOOTING IAW DEP10-3510-221-14 WITH NO CAUSE DETERMINED.

A FINAL ATTEMPT WAS MADE TO COMPLETE A CYCLE. COMPLETION OF THE CYCLE WAS ACCOMPLISHED SUCCESSFULLY.

THE OPERATIONS WERE CONTINUED. NO FURTHER ACTION WAS TAKEN AT THIS TIME.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS. THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
40	EST	NST
41	04U(P)	03-(P)
42	UNA	OMF

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 28

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900813

TIRN: L5-A000032 01

INC CLASS: MINOR

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FGC: 0100

OPSHRS 2.3

PRODHR 0.6

GENHRS 1.7

SCORING INFORMATION

STEP
01F (C)CLASS
NON-RANCHARGE
HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE
CHA UNSUSED PRESC RECON
CREW CREW CREWACTIVE
CLKHRS MANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

THE VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE RINSE CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF
THE SOLVENT FROM THE RINSE TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813

TIRN: L5-A000033 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FGC: 0100

OPSHRS 2.4

PRODHR 1.2

GENHRS 2.5

SCORING INFORMATION

STEP
01F (C)CLASS
NON-RANCHARGE
HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE
NON UNSUSED PRESC RECON
CREW CREW CREWACTIVE
CLKHRS MANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 29

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THE VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL
OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813
TIRM: L5-A000034 02
INC CLASS: RINOR
ACTION-TAKEN: ADJUSTED
PART NAME: STILL TANK THERMOSTAT
FCC: 0100
OPSHRS 6.1
PRODHR 1.3
GENHRS 5.1

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	01:18	01:18
CHA UNS	ORG	ORG	ORG	00:14	00:14

DESCRIPTION OF INCIDENT

THE RINSE TANK DID NOT REFILL.

FOLLOWING CYCLE #5, THE OPERATOR REPORTED THAT THE RINSE TANK DID NOT
REFILL.

SOLVENT WAS TRANSFERRED FROM THE STILL THROUGH THE DRUM, TO THE RINSE
TANK, CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISED 04 SEP 90 TO UPDATE THE DATA/NARRATIVE FOR DEFERRED MAINTENANCE
ACTIONS TAKEN.

THE STILL THERMOSTAT TEMPERATURE WAS ADJUSTED.

ON 08-15-90, AT 1500 (NST), WITH THE OPHRS 09:50, PRODHRS 05:53, GENHRS
9.2, CYCLES 11, AND THE NILES AT 0, THE OPERATOR REPORTED THAT THE RINSE
TANK DID NOT REFILL.

SOLVENT WAS TRANSFERRED FROM THE STILL, THROUGH THE DRUM, TO THE RINSE
TANK. THIS ACTION PROVIDED THE PROPER SOLVENT LEVELS NECESSARY TO CONTINUE

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THE OPERATIONS.

ON 08-16-90, AT 0344 (NST), WITH THE OPHRS 19:39, PRODHRS 12:37, GENHRS 18.8, CYCLES 25, AND THE HILES AT 0, THE OPERATOR DISCOVERED THAT THE SOLVENT HAD BEEN RETAINED IN THE LOWER PORTION OF THE CONTROL TRAP ASSEMBLY. NO VARIANCE WAS OBSERVED ON ANY OF THE PRESSURE GAUGES.

NO CORRECTIVE MAINTENANCE ACTION WAS TAKEN AT THIS TIME, AND THE OPERATIONS WERE CONTINUED.

AT 0345, WITH THE SAME PRIOR READINGS, THE OPERATOR OBSERVED THAT THE SOLVENT LEVEL IN THE RINSE TANK WAS INSUFFICIENT FOR CONTINUING OPERATIONS.

THE NECESSARY AMOUNT OF SOLVENT WAS DRAINED FROM THE DUMP TANK TO THE SOLVENT STORAGE DRUM, AND WAS PUMPED FROM THE DRUM TO THE RINSE TANK.

THE PROPER SOLVENT LEVELS WERE MAINTAINED, AND THE OPERATIONS WERE CONTINUED.

AT 0740 (NST), WITH THE OPHRS 23:37, PRODHRS 14:04, GENHRS 21.3, CYCLES 28, AND THE HILES AT 0, THE PREVIOUSLY REPORTED MEASURES WERE TAKEN TO TRANSFER THE SOLVENT. THE PROPER SOLVENT LEVELS WERE MAINTAINED, AND THE OPERATIONS WERE CONTINUED.

AT 0832 (NST), WITH THE OPHRS 24:36, PRODHRS 14:35, GENHRS 22.3, CYCLES 29, AND THE HILES AT 0, THE MAINTENANCE PERSONNEL ADJUSTED THE STILL THERMOSTAT TEMPERATURE FROM 195 DEG F TO 210 DEG F, AS PER A PHONE CONVERSATION WITH THE WRDEC REPRESENTATIVE.

THE WRDEC REPRESENTATIVE STATED THAT THE THERMOSTAT ADJUSTMENT SHOULD CORRECT THE PREVIOUSLY REPORTED DISCREPANCIES.

AT 0948 (NST), WITH THE OPHRS 25:52, PRODHRS 14:23, GENHRS 23.4, CYCLES 29, AND THE HILES AT 0, THE MAINTENANCE PERSONNEL MADE A FINAL ADJUSTMENT TO THE STILL THERMOSTAT, CORRECTING THE DISCREPANCY. NO FURTHER MAINTENANCE ACTION WAS TAKEN, AND THE OPERATIONS WERE CONTINUED.

THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK #	FROM	TO
41	02	04U
42	CCMA	UMA
50	TANK, RINSE	STILL THERMOSTAT
57	OTHER, SEE BLK 90	ADJUSTED
63	0.0 OPHRS 6.07	0.00 OPHRS 25.52
64	0.0 PRODHR 1.52	0.00 PRODHR 14.23
65	0.0 GENHRS 5.10	0.00 GENHR 23.4
70	00:01	00:03
71	00:01	00:03
72	00:23	01:34
73	00:23	01:34
90	AS IS	ADD NARRATIVE
09/13/90		
72	01:09	01:32

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-033

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

73

01:09

01:32

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813

TIRN: L3-A000033 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE, SWITCH

FGC: 0100

OPSHRS 6.1

PRODHR 1.5

GENHRS 5.1

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF
THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 32

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LAD001*****
INC-DATE: 900813

TIRB: L5-A000036 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: CONTROL TRAP

FGC: 0300

OPSHRS 7.0

PRODHR 2.2

GENHRS 6.1

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CREW	ORG	ORG	CLKHRS MANHRS
				00:03 00:03

DESCRIPTION OF INCIDENT

SOLVENT WAS FOUND IN THE CONTROL TRAP.

FOLLOWING CYCLE #6, THE OPERATOR DISCOVERED SOLVENT IN THE CONTROL TRAP. THE CAUSE WAS UNDETERMINED.

APPROXIMATELY 1/2 GALLON OF SOLVENT WAS DRAINED FROM THE CONTROL TRAP.

NO VARIANCE IN THE PRESSURE GAUGES WERE OBSERVED.

NO FURTHER ACTION WAS TAKEN AT THIS TIME AND OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813

TIRB: L5-A000037 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FGC: 0100

OPSHRS 7.4

PRODHR 2.5

GENHRS 6.6

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON UNS	CREW	CREW	CREW	CLKHRS MANHRS
				00:01 00:01

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SUPPORTABILITY ANALYSIS CHART

PAGE: 33

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813
TIRB: L5-A000038 02
INC CLASS: MAJOR
ACTION-TAKEN: WELDED
PART NAME: CONTROL TRAP ASSEMBLY
FGC: 03
OPSHRS 7.4
PRODHR 2.5
GENHRS 6.6

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UMA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	DS	DS	DS	02:57	04:44
NON UNS	ORG			02:16	02:16

DESCRIPTION OF INCIDENT

CRACKS WERE DISCOVERED IN THE CONTROL TRAP DUCT.

FOLLOWING CYCLE #8, THE OPERATOR REPORTED A, ONE INCH, CRACK IN THE
LEFT, LOWER PORTION OF THE CONTROL TRAP DUCT. ALSO REPORTED, WAS A 1/4 INCH
CRACK IN THE RIGHT SIDE, LOWER PORTION OF THE CONTROL TRAP DUCT.

A CLASS III SOLVENT LEAK, AT EACH OF THE LOCATIONS, WAS A RESULT OF THE
CRACKS.

THE LOCATIONS OF THE CRACKS HAD PREVIOUSLY BEEN REPAIRED BY SPOT
WELDING, AND HAD BEEN MARKED IN ORANGE (LEAK).

THE DUCT WAS REMOVED BY ORGANIZATIONAL MAINTENANCE PERSONNEL, TAKEN
TO THE WELDING SHOP AND WELDED.

THE CONTROL TRAP DUCT WAS REPLACED ON THE SYSTEM WITHOUT REINSTALLING
THE UPPER LINT CONTROL SCREEN AS PER THE TEST DIRECTOR.

REVISION #1

DATE 11/01/90 HILES 0.0 HOURS 7.37 TIME 0900 NST

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DEY CLEANER

ITEM ID
LADD01

ON 10-24-90, AT 1459 (HST), WITH THE OPNRS 294:44, PRODHRS 249:45, GENHRS 311.4, CYCLES 459, AND THE RILES AT 748.4, THE MAINTENANCE PERSONNEL REMOVED THE CONTROL TRAP DUCT SEAL.

A NEW GASKET (P/M - UNKNOWN) WAS CUT FROM RUBBER GASKET MATERIAL, AND THE NEW LINT SCREEN (P/M - UNKNOWN) WAS INSTALLED WITH THE NEW GASKET ON THE DUCT. THE DUCT BOLTS WERE REINSTALLED, COMPLETING THE NECESSARY CORRECTIVE MAINTENANCE ACTION.

BLOCK#	FROM	TO
90	AS IS	ADD NEW NARRATIVE
PARTS		ADD PARTS REPLACED
MAINT BREAKDOWN		ADD NEW BREAKDOWN

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900813
TIR#: L5-AC00039 02
INC CLASS: MINOR
ACTION-TAKEN: REPAIRED
PART NAME: CONTROL TRAP ASSEMBLY
FCC: 0300
OPSHRS 7.4
PRODHR 3.2
GENHRS 6.6

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE

MAINTENANCE INFORMATION

			ACTIVE
CHAR TYPE	USED	PRESC	RECON
CHAR UNS	ORG	ORG	ORG
			00:08 00:08

DESCRIPTION OF INCIDENT

CLASS 3 SOLVENT LEAK FROM CONTROL TRAP GASKET.

DURING CYCLE #9 THE OPERATOR OBSERVED A CLASS 2 SOLVENT LEAK COMING FROM THE CONTROL TRAP DUCT.

FURTHER INVESTIGATION REVEALED THE LEAK TO BE COMING FROM THE LEFT REAR CORNER OF THE SEAM OF THE DUCT. THE SEAM CONNECTS THE UPPER DUCT SECTION OF THE CONTROL TRAP TO THE LOWER TRAP SECTION.

THE UPPER DUCT SECTION WAS REMOVED TO REPAIR A CRACKED WELD (TIR L5-AC00038).

UPON REMOVAL OF THE UPPER DUCT, IT WAS REVEALED THAT THE GASKET WAS TORN IN THE LEFT REAR CORNER.

ALSO, THREE OF THE CORNERS OF THE LOWER CONTROL TRAP DUCT WERE BENT UPWARD (THE LEFT FRONT, THE LEFT REAR AND THE RIGHT REAR CORNERS).

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

ON 08/14/90, A NEW GASKET WAS MADE AND INSTALLED.
THE 3 BENT CORNERS WERE BENT DOWN USING A RUBBER Mallet BY ORGANIZA-
TIONAL MAINTENANCE.

THE UPPER DUCT SECTION OF THE CONTROL TRAP WAS REPOSITIONED AND
SECURED.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900814

TIRB: L5-A000040 01

INC CLASS: MAJOR

ACTION-TAKEN: REPAIRED

PART NAME: CONTROL TRAP ASSEMBLY

FCC: 0300

OPSHRS 8.4

PROGHR 3.2

GENHRS 7.9

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UMA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRISC	RECON	ACTIVE	
				CLKHRS	HANHRS
CNA UNS	ORG	ORG	ORG	02:40	02:40

DESCRIPTION OF INCIDENT

CLASS 3 SOLVENT LEAK AT UPPER CONTROL TRAP DUCT.

DURING OPERATIONS, THE OPERATOR OBSERVED A CLASS III SOLVENT LEAK.
THE SOLVENT WAS SPRAYING FROM THE LOWER LEFT CORNER WHERE THE SOLVENT
CCT" X TRAP DUCT CONNECTS TO THE BLOWER ASSEMBLY.

THE SYSTEM WAS SHUT DOWN.

THE OPERATOR ATTEMPTED TO RECTIFY THE LEAK BY TIGHTENING THE BOLTS
AT THE LOWER LEFT CORNER.

THE BOLTS WERE TIGHTENED AND THE DRYING CYCLE WAS ALLOWED TO CONTINUE.

A NEW WASH CYCLE WAS INITIATED.

IMMEDIATELY SOLVENT BEGAN TO SPRAY FROM THE SAME LOCATION.

THE SYSTEM WAS AGAIN SHUT DOWN.

IT WAS DETERMINED THAT THE GASKET BETWEEN THE CONTROL TRAP DUCT AND THE
BLOWER ASSEMBLY NEEDED TO BE REPLACED.

THE BOLTS SECURING THE CONTROL TRAP DUCT TO THE BLOWER ASSEMBLY WERE
REMOVED AND THE GASKET WAS REMOVED.

08/15/90-A NEW GASKET WAS NOT AVAILABLE. A DECISION WAS MADE BY THE
TEST DIRECTOR TO REINSTALL THE OLD GASKET, USING SILICONE RTU, AS A SEALANT,

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
0-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITER ID
LADD01

AS A TEMPORARY FIX.

THE OLD GASKET WITH THE SILICONE RTV WAS REINSTALLED AND THE BOLTS WERE REINSTALLED AND TIGHTENED.

THIS CORRECTED THE PROBLEM.

NO FURTHER ACTION WAS TAKEN AT THIS TIME.

OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900814

TIRB: L5-A000041 01

INC CLASS: MINOR

ACTION-TAKEN: REINSTALLED

PART NAME: GASKET

FCC: 0300

OPSHRS 56.0

PROBHR 3.2

GENHRS 8.1

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MAKHRS
CNA UNS	ORG	ORG	ORG	00:01	00:01

DESCRIPTION OF INCIDENT

CORROSION FOUND ON THE UPPER CONTROL TRAP DUCT GASKET.

DURING UNSCHEDULED MAINTENANCE, THE MAINTENANCE PERSONNEL DISCOVERED CORROSION IN TWO LOCATIONS, ON THE UPPER CONTROL TRAP GASKET.

THE LOCATIONS OF THE CORROSION WERE ON THE UNDERSIDE, TOP RIGHT AND CENTER OF THE GASKET.

THE CAUSE OF THE CORROSION WAS UNDETERMINED. THE MAINTENANCE PERSONNEL REMOVED THE CONTROL TRAP GASKET FOR FURTHER INSPECTION.

NO FURTHER ACTION WAS TAKEN AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 37

PROJECT NUMBER
8-ES-113-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900814

TIRM: L5-A000042 02

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: LADDS

FCC: 0000

OPSHRS 8.4

PRODHR 3.2

GENHRS 7.9

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC RECON	ACTIVE	
		CLKHRS	MANHRS
NON UNS	CREW CREW CREW	00:08	00:08

DESCRIPTION OF INCIDENT

THE OPERATOR BECAME MAUSEATED FROM FREON FUMES.

DURING THE TRAINING OPERATIONS, THE OPERATOR OPENED THE DRUM DOOR TO REMOVE THE CLEANED CLOTHING FROM THE DRUM.

THE OPERATOR STATED THAT WHILE LEANING TOWARD THE DRUM, THE FREON FUMES CAUSED HIM TO BECOME DIZZY. AS THE OPERATOR STEPPED AWAY FROM THE UNIT TO ACQUIRE FRESH AIR, THE OPERATOR REPORTED NAUSEA. THE OPERATOR RECOVERED FROM THE DIZZINESS AND NAUSEA AFTER A SHORT PERIOD OF TIME. HOWEVER, THE OPERATOR REPORTED A HEADACHE, WHICH CONTINUED FOR THE REMAINDER OF THE DAY.

THE OPERATIONS WERE CONTINUED.

THE HUMAN FACTORS ENGINEER NOW REQUIRES THAT THE OPERATOR OPEN THE DRUM DOOR AND STEP AWAY FROM THE UNIT FOR 30 SECONDS. THE OPERATOR MAY THEN PROCEED TO REMOVE THE CLEANED CLOTHING FROM THE DRUM, WHILE ATTEMPTING TO KEEP HIS HEAD OUT OF THE INNER AREA OF THE DRUM.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS. THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
41	01A	01F
42	PRE TEST (P)	NON RAN (P)

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 38

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900815

TIRB: LS-A000043 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 9.4

PRODMR 4.2

GENHRS 8.9

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALUE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALUE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815

TIRB: LS-A000044 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 9.0

PRODMR 3.3

GENHRS 8.3

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALUE CONTROL OVERRIDE WAS ACTIVATED.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815

TIRN: L3-A000045 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 9.0

PRODHR 3.3

GENHRS 8.2

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
	CLKHRS	NAMEHRS		
NON UNS	CREW	CREW	CREW	00:01 00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF
THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 40

PROJECT NUMBER
8-ES-115-LAB-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900815

TIRN: L5-A000046 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 9.4

PRODHR 4.2

GENHRS 8.8

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UMS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815

TIRN: L5-A000047 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 10.1

PRODHR 4.5

GENHRS 9.5

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE VALVE CONTROL MANUAL OVERRIDE WAS ACTIVATED.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 41

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

DURING THE OPERATIONS, THE SOLVENT TANK FLOW VALVE CONTROL MANUAL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.
THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF
THE SOLVENT FROM THE WASH TANK.
THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815
TIRN: L5-A000048 03
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: BAG FILTER
FGC: 1000
OPSHRS 11.3
PRODHR 6.3
GENHRS 10.0

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREN	CREN	CREN	00:11	00:11

DESCRIPTION OF INCIDENT

FILTER BAG REPLACED.

DURING OPERATION OF CYCLE 14 THE OPERATOR OBSERVED
A DIFFERENCE IN PRESSURE OF 8 PSI BETWEEN THE INLET AND OUTLET PRESSURE
GAUGES OF THE BAG FILTER CHAMBER.

THE FILTER WAS DRAINED AND A VISUAL INSPECTION WAS CONDUCTED.
THE VISUAL INSPECTION REVEALED THE BAG TO BE HEAVILY SOILED.
THE FILTER BAG WAS REMOVED AND A NEW FILTER BAG WAS INSTALLED.
THE COVER WAS REPLACED AND OPERATIONS WERE CONTINUED.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS.
THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK	FROM	TO
41	02(P)	04U(P)
42	CCRA	UMA
43	HARDWARE	MANUALS

REVISED 03 FEB 91 TO UPDATE PARTS.

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BY II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815
TIRN: L5-A000049 01
INC CLASS: MINOR
ACTION-TAKEN: NO ACTION TAKEN
PART NAME: DRUM, DOOR
FCC: 0300
OPSHRS 10.5
PRODHR 6.3
GENHRS 9.6

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
MON UMS	CREW	CREW	CREW	00:03	00:03
CHA UMS	ORG	ORG	ORG	00:03	00:03

DESCRIPTION OF INCIDENT

DRUM DOOR LEAKING, THEN STOPPED.

DURING OPERATIONS OF CYCLE #13, OPS 10:48, PROD 06:31, CYCLE 12 THE OPERATOR OBSERVED A CLASS III SOLVENT LEAK.

THE SOLVENT BEGAN SPRAYING FROM THE WASH DRUM DOOR APPROXIMATELY AT THE 8 O'CLOCK POSITION.

THE SPRAY CONTINUED FOR 15 SECONDS AND STOPPED BY ITSELF. NO CORRECTIVE ACTION WAS TAKEN.

15 AUG 1990, 1553 (OPS 12:25, PROD 07:43, CYCLE 15), THE DRUM AGAIN SPRAYED SOLVENT FOR SEVERAL SECONDS AND STOPPED.

THIS TIME THE DRUM STOPPED AGITATING.

THE OPERATOR PUSHED THE CYCLE RUN BUTTON AND OPERATION RESUMED. NO FURTHER SOLVENT LEAKS WERE OBSERVED.

15 AUG 1990, 1755 (OPS 13:33, PROD 08:35, CYCLE 17), THE SOLVENT BEGAN SPRAYING FROM THE SAME LOCATION. THIS TIME THE SPRAY LASTED SIX SECONDS AND STOPPED BY ITSELF. OPERATION CONTINUED.

EACH TIME THE SOLVENT LEAK OCCURRED AT THE VERY BEGINNING OF THE WASH CYCLE.

15 AUG 1990, 1908 (OPS 14:06, PROD 09:03, CYCLE 17), AFTER CYCLE #17 WAS COMPLETED, THE OPERATOR APPLIED THE VACUUM GREASE, SUPPLIED BY THE MRDEC REPRESENTATIVE, TO THE DRUM DOOR GASKET.

OPERATIONS CONTINUED.

15 AUG 1990, 1835 (OPS 15:53, PROD 10:32, CYCLE 21), THE DOOR LEAKED AGAIN FROM THE SAME LOCATION.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 43

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THIS TIME THE SOLVENT LEAK LASTED SIX SECONDS AND STOPPED.
NO FURTHER ACTION WAS TAKEN.
NO FURTHER LEAKAGE OCCURRED FOR THE REMAINDER OF THE MISSION.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900913

TIR#: L5-A000050 01

INC CLASS: INFORMATION

ACTION-TAKEN: REMOVED

PART NAME: LINT, SCREEN

FGC: 0300

OPSHRS 8.1

PRODHR 3.2

GENHRS 7.2

SCORING INFORMATION

STEP	CLASS	CHARGE
01B (C)	MODIFICATION	HARDWARE/CPE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON	UNS	ORG	ORG	ORG
				CLKHRS
				MANHRS
				00:00
				00:00

DESCRIPTION OF INCIDENT

THE LINT TRAP SCREEN WAS REMOVED FROM THE CONTROL TRAP ASSY.

DURING THE UNSCHEDULED MAINTENANCE TO THE SOLVENT CONTROL TRAP DUCT ASSEMBLY (REF TIR L5-A000038), THE MAINTENANCE PERSONNEL WAS INSTRUCTED, BY THE PROJECT ENGINEER, TO REMOVE THE LINT TRAP SCREEN.

THE LINT SCREEN WAS REMOVED AS A MODIFICATION TO THE SYSTEM AS PER NRDEC REPRESENTATIVE'S APPROVAL.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 44

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900815

TIRN: L3-A000051 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE

FGC: 0100

OPSHRS 11.3

PRODHR 5.6

GENHRS 10.2

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NOM-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NOM UNS	CREW	CREW	CREW	CLKHRS MANHRS
				00:01 00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815

TIRN: L3-A000052 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE

FGC: 0100

OPSHRS 12.1

PRODHR 6.3

GENHRS 11.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NOM-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NOM UNS	CREW	CREW	CREW	CLKHRS MANHRS
				00:01 00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 45

PROJECT NUMBER
B-ES-115-LAD-003

PROJECT NAME
BY IX LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900815

TIRN: LS-A000053 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE

FCC: 0100

OPSHRS 12.6

PROGHR 7.0

GENHRS 11.9

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 46

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900815

TIRN: L3-A000054 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL VALVE OVERRIDE

FGC: 0100

OPSHRS 15.3

PRODHR 9.0

GENHRS 14.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	HANHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WASH CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL
OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816

TIRN: L3-A000055 01

INC CLASS: MINOR

ACTION-TAKEN: REINSTALLED

PART NAME: DRUM SCREENS CAP

FGC: 3700

OPSHRS 18.4

PRODHR 10.6

GENHRS 18.0

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	HANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:04	00:04

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 47

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

DESCRIPTION OF INCIDENT

DRUM CAP SCREWS OBSERVED TO BE MISSING AND LOOSE.

DURING THE B-PHCS THE OPERATOR DISCOVERED THAT THE #1 AND #6 (CLOCKWISE) DRUM CAP SCREWS WERE MISSING, AND #2, #3, #4 AND #5 DRUM CAP SCREWS WERE LOOSE. THE SCREWS THAT WERE MISSING WERE RECOVERED FROM THE CLOTHING INSIDE THE DRUM, AND THE MAINTENANCE PERSONNEL REINSTALLED THE SCREWS. THE LOOSE SCREWS WERE TIGHTENED THREE TURNS EACH. THE DISCREPANCY WAS CORRECTED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816
TIRB: L5-A000036 01
INC CLASS: NIMOR
ACTION-TAKEN: REINSTALLED
PART NAME: DRUM CAP SCREW
FGC: 0700
OPSHRS 30.2
PRODHR 17.6
GENHRS 27.6

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:01	00:01

DESCRIPTION OF INCIDENT

ONE OF THE DRUM CAP SCREWS WAS DISCOVERED TO BE MISSING.

DURING CYCLE #39 THE #3 DRUM CAP SCREW WAS DISCOVERED MISSING BY THE OPERATOR AND WAS LATER FOUND AT THE END OF THE CYCLE IN THE DRUM BASKET. AT THAT TIME THE ORGANIZATIONAL MAINTENANCE REINSTALLED THE SCREW AND AT THE SAME TIME TURNED EACH THE REMAINING SIX SCREWS ONE (1) FULL TURN CLOCKWISE SINCE THEY WERE ALL LOOSE.

THE DISCREPANCY WAS CORRECTED.

REVISION 02/06/91 - SCORING CONFERENCE.

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900816

TIR#: L5-A000057 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 18.4

PRODHR 11.0

GENHRS 18.3

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	CREW	RECON	ACTIVE	
					CLKHRS	MANHRS
NON UMS	CREW	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816

TIR#: L5-A000058 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 21.4

PRODHR 11.6

GENHRS 20.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	CREW	RECON	ACTIVE	
					CLKHRS	MANHRS
NON UMS	CREW	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL CONTROL VALVE OVERRIDE WAS ACTIVATED.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 49

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
'DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL OVER-
RIDE WAS ACTIVATED AT THE BEGINNING OF THE RINSE CYCLE.
THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF
THE SOLVENT FROM THE RINSE TANK.
THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816

TIRN: LS-A000059 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: BARREL PUMP HOSE

FCC: 0000

OPSHRS 19.4

PRODHR 11.3

GENHRS 15.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	ACCIDENT

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC	RECON	ACTIVE	
			CLKHRS	MANHRS
NON UMS	CREW	CREW CREW	00:02	00:02

DESCRIPTION OF INCIDENT

SOLVENT SPLASHED ON THE OPERATOR.

AFTER THE TRANSFER OF SOLVENT FROM THE SOLVENT STORAGE DRUM TO THE
RINSE TANK WAS COMPLETED THE OPERATOR REMOVED THE HOSE FROM THE RINSE
TANK FILL VALVE. DURING THE REMOVAL OF THE HOSE, THE REMAINING SOLVENT IN
THE RINSE TANK FILL VALVE SPLASHED ONTO THE RIGHT SIDE OF THE FACE AND
SHOULDER OF THE OPERATOR.

THE OPERATOR IMMEDIATELY RINSED THE RIGHT SIDE OF HER FACE AND
SHOULDER WITH WATER.

NO INJURY WAS SUSTAINED AND THE OPERATOR CONTINUED WITH THE OPERATION.

REVISION 02/06/91 - SCORING CONFERENCE.

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

INC-DATE: 900816

TIRM: L5-A000060 02

INC CLASS: MAJOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: GASKET, DRUM DOOR

FGC: 0700

OPSHRS 30.5

PRODHR 20.3

GENHRS 28.1

SCORING INFORMATION

STEP
03- (C)

CLASS
ORF/UMA

CHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:26	00:26
CHA UNS	CS	ORG	ORG	00:26	00:26
CHA UNS	ORG	ORG	ORG	01:18	01:20

DESCRIPTION OF INCIDENT

WASH DRUM DOOR GASKET SPRAYING SOLVENT.

OPS-29:00, PROD-18:59, CYCLE-38. THE OPERATOR OBSERVED A CLASS II SOLVENT LEAK SPRAYING FROM THE WASH DRUM DOOR. THE LEAK OCCURRED AT THE 8 O'CLOCK POSITION AND LASTED 15 SECONDS BEFORE STOPPING BY ITSELF. OPERATIONS CONTINUED.

OPS-29:39, PROD-19:35, CYCLE-39. A SOLVENT LEAK WAS AGAIN OBSERVED AT THE SAME LOCATION. IT LASTED 10 SECONDS AND STOPPED. OPERATIONS CONTINUED.

OPS-30:23, PROD-20:08, CYCLE-40. A THIRD SOLVENT LEAK WAS OBSERVED AGAIN FROM THE SAME LOCATION AND LASTING 10 SECONDS BEFORE STOPPING.

OPS-30:50, PROD-20:34, CYCLE-41. A FOURTH SOLVENT LEAK WAS OBSERVED AGAIN FROM THE SAME POSITION. THIS TIME THE LEAK DID NOT STOP. AFTER 35 SECONDS OF SPRAYING SOLVENT, THE OPERATOR HAD TO PUSH THE EMERGENCY SHUT OFF BUTTON. THE SOLVENT LEAK STOPPED.

THE TEST DIRECTOR WAS NOTIFIED. A DECISION WAS MADE BY THE TEST DIRECTOR TO HALT TESTING.

THE OPERATORS ATTEMPTED TO REPLACE THE DOOR GASKET WITH ONE SUPPLIED WITH THE UNIT. THE REPLACEMENT GASKET WAS DISCOVERED TO BE THE WRONG SIZE.

OPERATIONS ARE DOWN UNTIL A PROPER DOOR GASKET CAN BE OBTAINED.

REVISED 09 OCT 90 TO UPDATE THE DATA/NARRATIVE FOR DEFERRED MAINTENANCE ACTIONS TAKEN.

THE DRUM DOOR ASSEMBLY LEAKAGE WAS CORRECTED.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 31

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

ON 08-17-90, AT 0703 (NST), WITH THE OPHRS 31:20, PRODHRS 19:14, GENHRS 28.6, CYCLES #38, AND THE HILES AT 0. WHILE CLEANING THE DAMAGED DRUM DOOR GASKET, MAINTENANCE PERSONNEL DISCOVERED AN 18 INCH SECTION OF GASKET MATERIAL THAT WAS ALSO DAMAGED. THE DAMAGE WAS LOCATED APPROXIMATELY 1/8 INCH IN DEPTH IN THE GROOVE OF THE DRUM DOOR. THE STRIP OF MATERIAL SPANNED FROM THE FIVE O'CLOCK POSITION TO THE SEVEN O'CLOCK POSITION ON THE DRUM DOOR.

PHOTOGRAPHS WERE TAKEN OF THE FOLLOWING ITEMS: 1) THE GASKET GROOVE AND THE ROUGHNESS ALONG THE EDGES OF THE DRUM; 2) THE 18 INCH STRIP OF GASKET MATERIAL.

AT 0745 (NST), CYCLE #39 WAS COMPLETED WITH NO DISCREPANCIES.

AT 0845 (NST) WITH THE OPHRS 32:05, PRODHRS 19:42, GENHRS 29.8, CYCLES 39, AND THE HILES AT 0, WHILE ATTEMPTING TO BEGIN CYCLE #40, THE OPERATOR OBSERVED LEAKAGE FROM THE DRUM DOOR GASKET. THE LEAKAGE WAS LOCATED AT THE EIGHT O'CLOCK POSITION.

THE MAINTENANCE PERSONNEL SEALED THE GASKET WITH DOW CORNING GREASE, ATTEMPTING TO STOP THE LEAKAGE. ANOTHER ATTEMPT WAS MADE AT CYCLE #40 AND LEAKAGE OCCURRED AT THE SAME LOCATION. PHOTOGRAPHS WERE TAKEN OF THE LEAKAGE AS THE SYSTEM OPERATED.

THE SYSTEM WAS POWERED DOWN FOR THE REMAINDER OF THE DAY, AS PER THE PROJECT ENGINEER'S REQUEST.

ON 08-21-90, AT 0904 (NST), WITH THE OPHRS 33:09, PRODHRS 19:57, GENHRS 31.1, CYCLES 39, AND THE HILES AT 0, THE OPERATOR INITIALIZED THE SYSTEM IN THE RINSE CYCLE. THE LEAKAGE WAS FOUND TO BE PRESENT IN THE SAME LOCATION AS PREVIOUSLY REPORTED.

THE MAINTENANCE PERSONNEL REMOVED AND TURNED THE DAMAGED GASKET APPROXIMATELY 180 DEGREES, REINSTALLING THE GASKET ON THE DRUM DOOR.

THE SYSTEM WAS INITIALIZED IN THE RINSE CYCLE, AND WAS OPERATED THROUGH THE DRY CYCLE. LEAKAGE WAS OBSERVED IN THE SAME LOCATION PREVIOUSLY REPORTED.

AT 1145 (NST), WITH THE OPHRS 34:09, PRODHRS 20:15, GENHRS 32.1, CYCLES 39, AND THE HILES AT 0, THE REPLACEMENT GASKET (P/N 4020-5596-01) WAS RECEIVED.

THE DAMAGED GASKET WAS REMOVED AND REPLACED.

THE OPERATOR OBSERVED THAT THE NEW GASKET RECESSED IN THE AREA OF THE GROOVE, AND PROTRUDED APPROXIMATELY 1/8 INCHES IN ALL OTHER AREAS.

THE OPERATOR APPLIED HIGH VACUUM GREASE TO THE NEW GASKET.

AN ATTEMPT WAS MADE AT THE BEGINNING CYCLE #40. AT THE BEGINNING OF THE WASH CYCLE THE LEAKAGE WAS OBSERVED AT THE SAME LOCATION, AND AT THE SAME INTENSITY, AS PREVIOUSLY REPORTED. THE "EMERGENCY SHUT-OFF" BUTTON WAS ACTIVATED.

THE MAINTENANCE PERSONNEL REMOVED AND INSPECTED THE NEW GASKET. NO DISCREPANCY COULD BE FOUND, AND THE GASKET WAS REINSTALLED.

THE OPERATOR MADE ANOTHER ATTEMPT AT BEGINNING CYCLE #40, AND THE SAME LEAKAGE WAS OBSERVED.

AT 1239 (NST), THE SYSTEM WAS POWERED DOWN FOR THE REMAINDER OF THE

PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

DAY, AS PER THE PROJECT ENGINEER'S REQUEST.

ON 08-23-90, AT 0841 (NST), WITH THE OPHRS 34:33, PRODHRS 20:26, GEMHRS 32.8, CYCLES 39, AND THE MILES AT 0, THE MAINTENANCE PERSONNEL LOOSENEED THE FOUR DRUM DOOR MOUNTING BOLTS. THE DRUM DOOR WAS ADJUSTED TO ALIGN THE GASKET PROPERLY, AND THE BOLTS WERE TIGHTENED.

CARDBOARD INSERTS WERE INSTALLED IN THE DRUM DOOR GROOVE TO REBUILD THE GASKET, BRINGING THE GASKET FORWARD TO CAUSE A SEAL.

AT 0900 (NST), WITH THE OPHRS 35:05, AND THE PRODHRS 20:26, THE OPERATOR INITIALIZED THE RINSE CYCLE TO INSPECT FOR FURTHER LEAKAGE. LEAKAGE WAS OBSERVED AT THE TWELVE O'CLOCK AND THE SIX O'CLOCK POSITIONS ON THE DRUM DOOR.

THE MAINTENANCE PERSONNEL SEALED THE GASKET WITH VACUUM GREASE. A SECOND ATTEMPT AT THE RINSE CYCLE WAS MADE, AND THE OPERATOR OBSERVED LEAKAGE IN THE SAME LOCATION. ONCE AGAIN, THE MAINTENANCE PERSONNEL SEALED THE GASKET WITH VACUUM GREASE.

THE OPERATOR INITIALIZED THE RINSE CYCLE TO INSPECT FOR LEAKAGE.

THE DISCREPANCY APPEARED TO BE CORRECTED, AND THE OPERATIONS WERE CONTINUED.

ON 08-24-90, AT 1401 (NST), WITH THE OPHRS 37:40, PRODHRS 23:04, THE OPERATOR OBSERVED SOLVENT SPRAYING FROM THE DRUM DOOR AT THE EIGHT O'CLOCK POSITION. THE LEAKAGE OCCURRED FOR A 20 SECOND PERIOD, THEN CEASED.

THE MRDEC REPRESENTATIVE STATED THAT THE LEAKAGE OCCURRED DUE TO A PRESSURE BUILD UP OF APPROXIMATELY 5 POUNDS PER SQUARE INCH, WHICH WAS CAUSED BY THE HEAT OF DIRECT SUNLIGHT.

THE MRDEC REPRESENTATIVE DEPRESSED THE VENT BUTTON TO RELEASE PRESSURE FROM THE DRUM.

AT 1435 (NST), WITH THE OPHRS 37:40, AND THE PRODHRS 23:04, DURING THE WASH CYCLE, THE OPERATOR OBSERVED SOLVENT SPRAYING FROM THE DRUM DOOR AGAIN. THE LEAKAGE WAS OBSERVED AT THE EIGHT O'CLOCK POSITION, AND LASTED APPROXIMATELY 30 SECONDS, THE DRUM PRESSURE WAS THREE POUNDS PER SQUARE INCH.

THE MRDEC REPRESENTATIVE DEPRESSED THE VENT BUTTON, AND THE LEAKAGE CEASED.

NO FURTHER ACTION WAS TAKEN AT THIS TIME.

ON 08-27-90, AT 1000 (NST), WITH THE OPHRS 40:46, AND PRODHRS 25:18, THE OPERATOR OBSERVED LEAKAGE AT THE PREVIOUSLY REPORTED LOCATION. THE DRUM PRESSURE WAS 1.5 POUNDS PER SQUARE INCH (PSI). ONCE THE DRUM PRESSURE REACHED 1 PSI THE LEAKAGE CEASED.

THE MRDEC REPRESENTATIVE MODIFIED THE CYCLE CARD BY ADDING 30 SECONDS TO THE COOL DOWN PERIOD. THE PURPOSE OF THE MODIFICATION WAS TO GIVE THE FREON TIME TO COOL PRIOR TO THE FOLLOWING CYCLE, AND REDUCE THE PRESSURE IN THE DRUM.

THE MRDEC REPRESENTATIVE, ALSO, LOWERED THE WASH TANK THERMOSTAT TO 75 DEGREES F IN ATTEMPTS TO LESSEN THE DRUM PRESSURE.

AT 1035 (NST), WITH THE OPHRS 41:01, AND THE PRODHRS 25:18, THE OPERATOR OBSERVED SOLVENT SPRAYING FROM THE DRUM DOOR AT THE 12 O'CLOCK POSITION.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 33

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THE LEAKAGE OCCURRED TOWARD THE END OF THE WASH CYCLE, AND THE DRUM PRESSURE WAS OBSERVED TO BE 2 PSI. THE LEAKAGE CONTINUED FOR APPROXIMATELY 10 SECONDS, AND THEN CEASED. THE WASH CYCLE WAS COMPLETED.

AT 11:04 (NST), THE MAINTENANCE PERSONNEL REMOVED THE DRUM DOOR GASKET, AND ATTACHED THE FELT STRIP, FROM THE PREVIOUS GASKET, TO THE UNDERSIDE OF THE NEW GASKET. THE NEW GASKET WAS REINSTALLED, AND CYCLE #47 WAS PERFORMED WITH NO DISCREPANCIES.

A RUBBER GASKET WAS CREATED FROM GASKET MATERIAL TO REPLACE THE PREVIOUS CORK GASKET, AS PER THE PROJECT ENGINEER'S REQUEST.

AT 1214 (NST), WITH THE OPHRS 42:34, AND THE PRODHRS 26:17, THE MAINTENANCE PERSONNEL INSTALLED THE NEW RUBBER GASKET.

AT 1529 (NST), WITH THE OPHRS 43:28, AND THE PRODHRS 28:16, THE OPERATOR OBSERVED SOLVENT LEAKING FROM THE DRUM DOOR AT THE PREVIOUSLY REPORTED LOCATION. THE VENT BUTTON WAS DEPRESSED, AND THE LEAKAGE CEASED. THE OPERATIONS WERE CONTINUED.

ON 08-29-90, AT 0913 (NST), WITH THE OPHRS 64:31, AND THE PRODHRS 45:31, THE MAINTENANCE PERSONNEL REMOVED THE RUBBER GASKET AND THE GASKET SHIMS.

THE RUBBER GASKET WAS REINSTALLED AND AN ATTEMPT WAS MADE AT CYCLE #86. AT THE BEGINNING OF THE CYCLE, SOLVENT WAS OBSERVED LEAKING FROM THE AREA OF WHERE THE GASKET SHIMS HAD BEEN REMOVED.

THE SHIMS WERE REINSTALLED, AND THE OPERATIONS WERE CONTINUED WITH NO FURTHER DISCREPANCIES AT THIS TIME.

ON 08-31-90, AT 1506 (NST), WITH THE OPHRS 109:30, AND THE PRODHRS 87:06, THE OPERATOR OBSERVED SOLVENT SPRAYING FROM THE DRUM DOOR AT THE EIGHT O'CLOCK POSITION. THE LEAKAGE WAS OBSERVED AT THE BEGINNING OF CYCLE #168, AND LASTED FOR APPROXIMATELY 15 SECONDS. THE DRUM PRESSURE WAS 3.0 PSI, AND THE DRUM TEMPERATURE WAS 92 DEGREES F. THE AMBIENT TEMPERATURE WAS 111 DEGREES F.

THE OPERATIONS WERE CONTINUED.

AT 1745 (NST), WITH THE OPHRS 111:36, AND THE PRODHRS 89:08, THE OPERATOR OBSERVED SOLVENT SPRAYING FROM THE PREVIOUSLY REPORTED LOCATION. THE LEAKAGE WAS OBSERVED AT THE BEGINNING OF CYCLE #173, AND LASTED FOR APPROXIMATELY 15 SECONDS. THE DRUM PRESSURE WAS 2.5 PSI, AND THE DRUM TEMPERATURE WAS 100 DEGREES F. THE AMBIENT TEMPERATURE WAS 109 DEGREES F.

NO CORRECTIVE MAINTENANCE ACTION WAS TAKEN, AND THE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900816

TIRN: L3-A000061 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 24.0

PRODHR 12.6

GENHRS 21.5

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816

TIRN: L3-A000062 01

INC CLASS: MINOR

ACTION-TAKEN:

PART NAME: GENERATOR

FCC: 1400

OPSHRS 23.0

PRODHR 12.3

GENHRS 20.7

SCORING INFORMATION

STEP	CLASS	CHARGE
01C (C)	TEST PECULIAR	SUPPORT EQUIP

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CNA UNS	ORG	ORG	ORG	00:05	00:05

DESCRIPTION OF INCIDENT

THE GENERATOR FUEL SUPPLY WAS DEPLETED.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 35

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DURING DRY CYCLE #27, THE LADDS SYSTEM CEASED FUNCTIONING.
FURTHER INVESTIGATION REVEALED THAT THE GENERATOR FUEL SUPPLY HAD BEEN
DEPLETED.

FIFTEEN GALLONS OF DIESEL FUEL WERE ADDED TO THE GENERATOR FUEL TANK,
CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816
TIRB: L5-A000063 01
INC CLASS: MINOR
ACTION-TAKEN: TIGHTENED
PART NAME: DRUM CAP SCREW
FGC: 0700
OPSHRS 23.0
PRODHR 12.3
GENHRS 20.7

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CREW	CREW	CREW	CLKHRS MANHRS
CHA UNS	ORG	ORG	ORG	00:01 00:01
				00:01 00:01

DESCRIPTION OF INCIDENT

ONE OF THE DRUM CAP SCREWS WAS DISCOVERED TO BE LOOSE.

FOLLOWING CYCLE #27, THE OPERATOR DISCOVERED THE #1 (TOP CENTER) DRUM
CAP SCREW WAS LOOSE.

THE MAINTENANCE PERSONNEL TIGHTENED THE SCREW ONE AND ONE HALF TURNS,
CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900816

TIRM: L3-A000064 01

INC CLASS: MINOR

ACTION-TAKEN: TIGHTENED

PART NAME: DRUM CAP SCREW

FGC: 0700

OPSHRS 25.5

PRODHR 14.2

GENHRS 23.4

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:03	00:03

DESCRIPTION OF INCIDENT

ONE OF THE DRUM CAP SCREWS WAS DISCOVERED TO BE LOOSE.

FOLLOWING CYCLE #31, THE OPERATOR DISCOVERED THE #6 (CLOCKWISE) DRUM CAP SCREW WAS LOOSE.

THE MAINTENANCE PERSONNEL TIGHTENED THE SCREW, CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816

TIRM: L3-A000065 01

INC CLASS: MINOR

ACTION-TAKEN: TIGHTENED

PART NAME: DRUM CAP SCREW

FGC: 0700

OPSHRS 27.0

PRODHR 15.5

GENHRS 23.1

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:01	00:01

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SUPPORTABILITY ANALYSIS CHART

PAGE: 57

PROJECT NUMBER
8-IS-113-LAB-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

FOUR OF THE DRUM CAP SCREWS WERE DISCOVERED TO BE LOOSE.

FOLLOWING CYCLE #34, THE OPERATOR DISCOVERED THAT THE #2, #3, #4, #5 (CLOCKWISE) DRUM CAP SCREWS WERE LOOSE.

THE MAINTENANCE PERSONNEL TIGHTENED THE SCREWS, CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900816

TIRM: LS-A000066 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FGC: 0100

OPSHRS 23.0

PRODHR 12.5

GENHRS 20.8

SCORING INFORMATION

STEP
01F (C)

CLASS
NON-RAN

CHARGE
NA

MAINTENANCE INFORMATION

CHAR TYPE
NON UMS

USED PRESC RECON
CREW CREW CREW

ACTIVE
CLKHRS MANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.

THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900816

TIRB: L5-A000067 01

INC CLASS: INFORMATION

ACTION-TAKEN: OPERATED

PART NAME: MANUAL OVERRIDE SWITCH

FCC: 0100

OPSHRS 23.0

PROGHR 12.4

GENHRS 20.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UNS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

THE MANUAL VALVE CONTROL OVERRIDE WAS ACTIVATED.

DURING THE OPERATIONS, THE SOLVENT TANK MANUAL VALVE CONTROL
OVERRIDE WAS ACTIVATED AT THE BEGINNING OF THE WAS CYCLE.THE VALVE DID NOT ACTIVATE INDEPENDENTLY TO DISCONTINUE THE
REMOVAL OF THE SOLVENT FROM THE WASH TANK.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900817

TIRB: L5-A000068 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: CIRCUIT BREAKER, AZL-6

FCC: 0200

OPSHRS 32.0

PROGHR 19.4

GENHRS 29.8

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCHA	HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
CNA UNS	CREW	CREW	CREW	00:07	00:07

DESCRIPTION OF INCIDENT

THE STILL WAS NOT HEATING TO THE PROPER TEMPERATURE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 39

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

WHILE ATTEMPTING TO BEGIN CYCLE #40, THE OPERATOR OBSERVED THAT THE "STILL READY" LIGHT DID NOT ACTIVATE.

THE OPERATOR ACTIVATED THE EMERGENCY SHUT-OFF BUTTON, AND INSPECTED THE BREAKERS ON THE STILL CONTROL PANEL. THE "OFF" POSITION. THE CAUSE WAS UNDETERMINED.

THE BREAKER WAS SWITCHED TO THE "ON" POSITION, CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900823

TIRN: L5-A000070 03

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: DIAPHRAGM AND CAPILLAR

FGC: 0400

OPSHRS 33.0

PRODHR 20.3

CEMHS 33.3

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONF/UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CNA UMS	CS	ORG	ORG	CLKHRS HAMHRS
				03:02 05:25

DESCRIPTION OF INCIDENT

DISCOVERY OF CAPILLARY TUBE AND TX VALVE BROKEN.

DURING THE INSPECTION PERFORMED ON THE SYSTEM, BY THE MRDEC REPRESENTATIVE, LOW PRESSURE READINGS WERE DISCOVERED IN THE REFRIGERATION UNIT GAUGES. THE LOW PRESSURE IN THE GAUGES INDICATED THAT THE SYSTEM WAS INOPERATIVE.

THE MRDEC REPRESENTATIVE SUSPECTED THAT THE REFRIGERATION UNIT MIGHT HAVE BEEN LOW ON FREON 12.

WHILE ADDING FREON 12, TO THE REFRIGERATION SYSTEM, THE MRDEC REPRESENTATIVE DISCOVERED THAT THE SYSTEM WAS NOT GAINING PRESSURE.

THE MRDEC REPRESENTATIVE BEGAN TROUBLESHOOTING THE SYSTEM, WITHOUT REFERRING TO A TECHNICAL MANUAL. THE TROUBLESHOOTING CONSISTED OF USING A VOLT METER TO TEST THE REFRIGERATION SYSTEM ELECTRICAL CIRCUITS LOCATED IN THE MAIN CIRCUIT BREAKER BOX. NO DISCREPANCY WAS FOUND IN THE ELECTRICAL SYSTEM.

THE MRDEC REPRESENTATIVE BEGAN TROUBLESHOOTING THE MECHANICAL UNITS OF THE REFRIGERATION SYSTEM THAT CONSISTED OF THE VALVES AND THE SUCTION HOSE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 60

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THE NRDEC REPRESENTATIVE DISCOVERED THAT THE CAPILLARY TUBING HAD BROKEN OFF AT THE CONNECTION POINT TO THE TX VALVE. THE CAUSE OF THIS BREAK WAS UNDETERMINED. THIS DISCREPANCY CAUSED LOW PRESSURE IN THE REFRIGERATION SYSTEM AND RESULTED IN THE REFRIGERATION SYSTEM BEING INOPERATIVE.

OPERATIONS WERE DELAYED UNTIL THE REPLACEMENT PART WAS RECEIVED.

ON 08-24-90 AT 0758 NST (OPSHRS 37:00, PRODHRS 22:32), REMOVAL OF THE TX VALVE AND CAPILLARY TUBE BEGAN.

THE SUCTION LINE MOUNTING CLAMPS AND THE SUCTION LINE WERE REMOVED. THE TX VALVE SENSING BOLT WAS REMOVED. THE NRDEC REPRESENTATIVE DEPRESSURIZED THE REFRIGERATION SYSTEM BY BLEEDING OFF THE REFRIGERANT.

PHOTOGRAPHS WERE TAKEN OF THE LOCATION OF THE TX VALVE AND CAPILLARY TUBING. PHOTOS WERE ALSO TAKEN TO SHOW THE POSITION OF THE BREAK ON THE TX VALVE AND CAPILLARY TUBE CONNECTION POINT.

THE DAMAGED DIAPHRAGM ON THE TX VALVE AND CAPILLARY TUBE WERE REMOVED, AND THE NEW DIAPHRAGM WAS INSTALLED IN ACCORDANCE WITH THE INSTRUCTION PAMPHLET THAT WAS ENCLOSED WITH THE THERMOSTATIC ELEMENT KIT.

THE TX VALVE AND CAPILLARY TUBING WERE REINSTALLED WITH THE NEW DIAPHRAGM. THE REFRIGERATION SYSTEM WAS PURGED OF AIR USING FREON 12 REFRIGERANT.

ENTRY CLOTH WAS USED TO SAND DOWN THE SUCTION LINE IN PREPARATION FOR REINSTALLATION OF THE SENSING BULB. THE SENSING BULB WAS INSTALLED IN ACCORDANCE WITH THE PAMPHLET THAT WAS ENCLOSED WITH THE THERMOSTATIC ELEMENT KIT.

THE SUCTION LINE MOUNTING CLAMPS WERE THEN REINSTALLED AND TIGHTENED. TUBULAR REFRIGERATION INSULATION, 7/8 INCH THICK WAS USED TO COVER THE SENSING BULB AND SUCTION LINE.

THE DISCREPANCY WAS CORRECTED AND NO FURTHER ACTION WAS TAKEN. THE OPERATIONS CONTINUED.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS. THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
41	04U(P)	03-(P)
42	ENR	OMF

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 61

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900827

TIRN: L5-A000071 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: LADDS

FGC: 0000

OPSHRS 45.1

PRODHR 29.2

GENHRS 45.5

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	NA

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON UMS	CREW	CREW	CREW	00:00	00:00

DESCRIPTION OF INCIDENT

OPERATOR BECAME MAUSEATED BY FREON FUMES

DURING CYCLE #54, THE OPERATOR WAS STANDING BETWEEN THE HEPA FILTER AND THE WASH TANK OBSERVING THE CONTROL VALVE TO ENSURE THAT IT OPENED WHEN THE SOLVENT WAS DRAINED FROM THE WASH TANK TO THE DRUM AND BASKET FOR THE START OF THE WASH CYCLE. DURING THIS TIME PERIOD OF ABOUT 20 SECONDS, THE OPERATOR DETECTED A STRONG ODOR OF FUMES EMITTING FROM THE HEPA FILTER EXHAUST PIPE. BEFORE THE WASH TANK WAS DRAINED THE OPERATOR STARTED TO FEEL MAUSEATED AND DIZZY. THE OPERATOR STEPPED AWAY FROM THE UNIT TO GET SOME FRESH AIR. THE OPERATOR RECOVERED FROM THE MAUSEA AND DIZZINESS AFTER A SHORT PERIOD OF TIME. HOWEVER, THE OPERATOR REPORTED A HEADACHE, WHICH CONTINUED FOR THE REST OF THE DAY.

OPERATIONS WERE CONTINUED.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 62

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900824

TIRB: L5-A000072 01

INC CLASS: MINOR

ACTION-TAKEN: ADJUST

PART NAME: VIBRATION KILL SWITCH

FGC: 0700

OPSHRS 33.6

PRODHR 22.4

GENHRS 35.4

SCORING INFORMATION

STEP
04U (C)CLASS
UMACHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	ORG	ORG	ORG	CLKHRS HANHRS
				00:02 00:02

DESCRIPTION OF INCIDENT

DRUM VIBRATION KILL SWITCH WAS MOVED 1/8 INCH CLOSER TO CONTACT POINT

DURING OPERATIONS, THE MRDEC REPRESENTATIVE OBSERVED EXCESSIVE VIBRATION OF THE DRUM EXTRACTION CYCLE.

IT WAS DETERMINED BY THE MRDEC REPRESENTATIVE THAT THE VIBRATION KILL SWITCH NEEDED TO BE ADJUSTED.

THE DRUM VIBRATION KILL SWITCH WAS ADJUSTED BY MOVING IT 1/8 INCH CLOSER TO THE CONTACT POINT.

THE ADJUSTMENT OF THE KILL SWITCH ELIMINATED THE EXCESSIVE VIBRATION BY SHUTTING THE SYSTEM DOWN WHEN THE VIBRATION EXCEEDED A CERTAIN LIMIT.

THE CLOTHES WERE THEN REPOSITIONED AND THE CYCLE WAS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900827

TIRN: L3-A000073 02

INC CLASS: NIMOR

ACTION-TAKEN: TIGHTENED

PART NAME: EVAPORATOR DUCT

FGC: 0200

OPSHRS 42.5

PRODHR 26.5

GENHRS 43.0

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	CRECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:21	00:21

DESCRIPTION OF INCIDENT

CLASS 3 SOLVENT LEAK FROM BOLTS ON EVAPORATOR DUCT

DURING THE (D) PHCS, (CYCLE #50), THE OPERATOR OBSERVED A CLASS III SOLVENT LEAK.

THE LEAK WAS OBSERVED COMING FROM BETWEEN THE FIRST AND SECOND BOLTS THAT SECURED THE BOTTOM FRONT OF THE EVAPORATOR DUCT TO THE EVAPORATOR/HEATING COIL.

THE MRDEC REPRESENTATIVE INVESTIGATED THE LEAK AND CONCLUDED THAT IT WAS COMING FROM THE GASKET BETWEEN THE EVAPORATOR DUCT AND THE HEATING COIL ASSEMBLY.

THE MRDEC REPRESENTATIVE ATTEMPTED TO CORRECT THE PROBLEM BY TIGHTENING THE BOLTS THAT SECURED THE EVAPORATOR DUCT TO THE EVAPORATOR/HEATING COIL ASSEMBLY.

THE DRUM BELT GUARD WAS REMOVED TO GAIN BETTER ACCESS TO THE BOLTS.

THE BOLTS WERE TIGHTENED AND THE LEAK WAS CORRECTED.

THE DRUM BELT GUARD WAS REINSTALLED.

NO FURTHER ACTION WAS TAKEN.

OPERATIONS CONTINUED.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS. THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
31	STILL PALLET ASSY	CONTROL TRAP ASSY
40	EST	RST

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 64

PROJECT NUMBER
9-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

 INC-DATE: 900829
 TIRN: 15-A000074 03
 INC CLASS: MINOR
 ACTION-TAKEN: REPLACED
 PART NAME: BAG FILTER
 FCC: 0100
 OPSHRS 59.5
 PRODHR 42.0
 GENHRS 60.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECCH	ACTIVE	CLAIMS	MANHRS
CHA UNS	CREW	CREW	CREW	00-01	00:01	
CHA UNS	ORG	ORG	ORG	00-10	00:10	

DESCRIPTION OF INCIDENT

THE BAG FILTER WAS FILLED.

DURING CYCLE #78 IT WAS DISCOVERED, BY THE OPERATOR THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 26 PSI AND THE LOWER PRESSURE GAUGE INDICATED 16 PSI. THE 10 PSI DIFFERENCE INDICATED THAT THE BAG FILTER NEEDED TO BE CHANGED.

AFTER CYCLE #78 MAINTENANCE PERSONNEL REMOVED THE COVER TO THE BAG FILTER COMPARTMENT. MAINTENANCE PERSONNEL DRAINED AND REMOVED THE BAG FILTER AND INSTALLED A NEW ONE. THE SOLVENT WAS REPLACED. THE "O" RING AND COVER WERE REPLACED AND TIGHTENED.

NO FURTHER ACTION WAS REQUIRED.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS. THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
40	EST	HST
43	HARDWARE	MANUALS

REVISED 03 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 63

PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900828

TIRN: LS-A000075 01

INC CLASS: MINOR

ACTION-TAKEN: ADJUST

PART NAME: TRAILER BALANCING EXTE

FGC: 0000

OPSHRS 46.3

PRODHR 30.3

GENHRS 46.6

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCHA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC RECON	ACTIVE	
		CLKHRS	MANHRS
CNA UMS	CREW CREW CREW	00:06	00:12

DESCRIPTION OF INCIDENT

SYSTEM WAS NOT LEVEL.

DURING THE EXTRACTION CYCLE THE DRUM STOPPED ROTATING. THE CAUSE WAS DUE TO THE TWO REAR TRAILER BALANCING EXTENSION LEGS DIGGING INTO THE MUD. MUD HAD ACCUMULATED AROUND THE LADDS SYSTEM.

BECAUSE THE SYSTEM WAS NOT LEVELED THE EXTRACTION CYCLE KEPT SWITCHING OFF. THE EMERGENCY SHUT OFF WAS PUSHED.

ONE OPERATOR LIFTED THE TWO REAR TRAILER BALANCING EXTENSION LEGS, WHILE THE OTHER OPERATOR SHOVELED DIRT INTO THE HOLES THAT WERE MADE BY THE EXTENSION LEGS OF THE LADDS TRAILER.

ONE OPERATOR FILLED THE HOLES WITH ENOUGH DIRT TO MAKE THE LADDS LEVEL. THE OTHER OPERATOR LOWERED THE TWO REAR TRAILER EXTENSION LEGS AND USED AN 18 INCH LEVEL TO DETERMINE THE ACCURATE LEVEL OF THE TRAILER.

THE SYSTEM WAS TURNED BACK ON AND NO FURTHER DISCREPANCIES WERE REPORTED.

THE MUD THAT WAS ACCUMULATED AROUND THE LADDS SYSTEM WAS CAUSED FROM A RAIN STORM THE NIGHT BEFORE.

APPROX. 6 INCHES OF WATER WAS POOLED AROUND THE LADDS SYSTEM. TRENCHES WERE DUG TO DRAIN THE WATER AND ALLOW THE GROUND TO DRY.

OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 66

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BY II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD001*****
INC-DATE: 900828

TIRN: L5-A000076 01

INC CLASS: MINOR

ACTION-TAKEN: TIGHTENED

PART NAME: SOLENOID VALVE

FCC: 0200

OPSHRS 50.2

PRODHR 33.5

GENHRS 50.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CREW	ORG	ORG	CLKHRS HANHRS
				00:01 00:01

DESCRIPTION OF INCIDENT

SOLENOID VALVE TIGHTENED 1/4 OF A TURN.

THE MAINTENANCE REPRESENTATIVE OBSERVED SOLVENT SEEPING FROM THE SOLENOID VALVE LOCATED ON THE STILL. THE MAINTENANCE REPRESENTATIVE TIGHTENED THE CAP ON THE SOLENOID VALVE ABOUT 1/4 OF A TURN. THE SEEPING APPEARED TO HAVE STOPPED.

NO FURTHER ACTION WAS TAKEN AT THIS TIME AND OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900831

TIRN: L5-A000077 03

INC CLASS: MAJOR

ACTION-TAKEN: REPAIRED

PART NAME: O-RING,BAG FILTER ASSY

FCC: 1000

OPSHRS 113.4

PRODHR 91.1

GENHRS 114.3

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ORF/UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	ORG	ORG	ORG	CLKHRS HANHRS
				00:30 00:30

DESCRIPTION OF INCIDENT

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

BAG FILTER O-RING SEAL STRETCHED AND TORN CAUSING CLASS 3 LEAK.

DURING OPERATIONS THE OPERATOR OBSERVED A CLASS III SOLVENT LEAK COMING FROM THE BAG FILTER ASSEMBLY.

THE SOLVENT LEAK WAS COMING FROM THE TOP, BACKSIDE OF THE BAG FILTER ASSEMBLY COLUMN.

UPON COMPLETION OF CYCLE #175, THE OPERATOR DRAINED THE BAG FILTER ASSEMBLY. THE LID CLAMPS WERE LOOSENEED AND THE BAG FILTER LID WAS OPENED. THE BAG FILTER O-RING SEAL WAS OBSERVED TO BE IMPROPERLY PLACED IN THE GROOVE.

FURTHER INSPECTED REVEALED THAT THE O-RING SEAL WAS STRETCHED ABOUT 2 INCHES DUE TO REPEATED USE.

A SMALL TEAR WAS OBSERVED ON THE O-RING SEAL APPROXIMATELY 1/4 INCH IN LENGTH.

IT WAS DETERMINED THAT THE O-RING SEAL COULD NOT BE RE-USED. THE SYSTEM WAS SHUT DOWN.

OPERATIONS WILL BE DISCONTINUED UNTIL A REPLACEMENT O-RING SEAL CAN BE OBTAINED.

REVISED 27 SEP 90 TO UPDATE/COMPLETE THE MAINTENANCE DATA AND NARRATIVE INFORMATION.

31 AUG 1990, 2006 MST (OPSHRS 113:40/PRODHRS 91:07/GENHRS 114:30)

DURING UNSCHEDULED MAINTENANCE OF THE BAG FILTER ASSEMBLY THE MAINTENANCE PERSONNEL REMOVED THE BAG FILTER AND INSTALLED A NEW ONE.

UNSCHEDULED MAINTENANCE OF THE BAG FILTER ASSEMBLY CONTINUED.

03 SEP 1990, 1257 MST (OPSHRS 114:16/PRODHRS 91:08/GENHRS 114:9)

MAINTENANCE PERSONNEL REMOVED THE BAG FILTER ASSEMBLY COVER TO MAKE THE REQUIRED REPAIR TO THE O-RING. THE O-RING WAS REPAIRED BY REMOVING THE ONE INCH DEFECTIVE SECTION. THE ENDS OF THE O-RING WERE THEN RECONNECTED USING THE SUPER CLUE PROVIDED IN THE O-RING REPAIR KIT (PN #80851).

THE O-RING WAS THEN INSTALLED IN ITS RETENTION GROOVE. THE BAG FILTER ASSEMBLY COVER WAS SET IN PLACE AND THE THREE RETAINING SCREWS WERE TIGHTENED.

DURING CYCLE #176 THE BAG FILTER ASSEMBLY WAS INSPECTED AND THERE WAS NO INDICATION OF A LEAK.

THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK #	FROM	TO
35	DEFER MAINT	MAINTAINED
40	2008	1946
49	NOT APPLICABLE	REWORKED
50	O-RING FILTER	O-RING BAG FILTER ASSY

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 48

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

57	REMOVED	REPAIRED
63	0.0 (WHEN REPAIRED)	114.16
64	0.0 (WHEN REPAIRED)	91.08
65	0.0 (WHEN REPAIRED)	114.9
90	AS IS	ADD NARRATIVE, MAINT. DATA, AND PARTS REPLACED DATA

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900831

SCORING INFORMATION

TIRN: L5-A000078 02

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: CONTROL TRAP DOOR GASK

FCC: 0300

OPSHRS 108.2

PRODHR 87.0

GENHRS 109.0

STEP
01F (C)CLASS
NON-RANCHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE
CHA UNSUSED PRESC RECON
CREW ORG ORGACTIVE
CLKHRS RANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

CONTROL TRAP DOOR GASKET COMING LOOSE.

AFTER CYCLE #155, WHILE CLEANING THE LINT FILTER OF THE CONTROL TRAP ASSEMBLY, THE OPERATOR NOTICED THAT THE SEAL GASKET ON THE HOUSING WAS COMING UNGLUED ALL ALONG THE BOTTOM PORTION. NO LEAKAGE WAS OBSERVED. OPERATIONS WERE CONTINUED.

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS. THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
40	EST	RST
41	04U	01F
42	UNA	NON RAN

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 69

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900829

TIRB: L5-A000079 01

INC CLASS: MINOR

ACTION-TAKEN: TIGHTENED

PART NAME: CARD READER

FGC: 0900

OPSHRS 67.2

PRODHR 48.0

GENHRS 67.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREN	CREN	CREN	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:25	00:25

DESCRIPTION OF INCIDENT

CARD READER NOT TRACKING EVENLY.

29 AUG 90, 12:05 MST (OPSHRS 67:18; PRODHRS 48:02)

THE OPERATOR OBSERVED THE TIRER CARD WAS NOT TRACKING EVENLY THROUGH THE CARD READER. THE RIGHT SIDE OF THE CARD APPEARED NOT TO BE ALIGNED WITH THE LEFT SIDE OF THE CARD. AT THE COMPLETION OF CYCLE #90, MAINTENANCE PERSONNEL OPENED THE CARD READER ASSEMBLY CONTROL PANEL TO VISUALLY INSPECT THE CARD READER FROM THE BACK SIDE. THE LEFT CARD ADVANCE WHEEL MECHANISM ON THE CARD READER APPEARED TO BE LOOSE ON ITS SHAFT. THE SET SCREW WAS TIGHTENED WITH AN ALLEN WRENCH AND THE NEXT CYCLE WAS CONTINUED.

AT 1229 MST, MAINTENANCE PERSONNEL OBSERVED THE TIRER CARD WAS STILL NOT TRACKING EVENLY THROUGH THE CARD READER. POWER TO THE SYSTEM WAS TURNED OFF AND THE CYCLE WAS STOPPED. MAINTENANCE PERSONNEL OPENED THE CARD READER ASSEMBLY CONTROL PANEL AND VISUALLY INSPECTED THE BACK SIDE OF THE CARD READER A SECOND TIME. THE SET SCREW ON THE REMAINING CARD ADVANCE WHEEL MECHANISM WAS TIGHTENED ON THE CARD READER AND THE CYCLE WAS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 70

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

INC-DATE: 900829
TIR#: L5-A000080 01
INC CLASS: MINOR
ACTION-TAKEN: NO ACTION TAKEN
PART NAME: CONTROL TRAP ASSEMBLY
FCC: 0300
OPSHRS 62.5
PRODHR 44.0
GENHRS 63.1

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCHA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	ORG	ORG	ORG	00:03	00:03

DESCRIPTION OF INCIDENT

CLASS 2 LEAK ON RIGHT CORNER OF THE CONTROL TRAP DOOR.

THE OPERATOR LOCATED A CLASS 2 LEAK AT THE BOTTOM RIGHT CORNER OF THE CONTROL TRAP DOOR.

AT THE END OF CYCLE #82 THE OPERATOR GREASED THE CONTROL TRAP DOOR GASKET WITH DOW CORNING SEALANT GREASE DURING THE NORMAL CLEANING OF THE LINT FILTER AND WHILE CHECKING THE CONTROL TRAP.

NO FURTHER ACTION WAS TAKEN AT THIS TIME AND OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900906
TIR#: L5-A000082 01
INC CLASS: MINOR
ACTION-TAKEN: TIGHTENED
PART NAME: DRUM DOOR HANDLE
FCC: 0700
OPSHRS 127.4
PRODHR 103.1
GENHRS 129.1

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:05	00:05

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SUPPORTABILITY ANALYSIS CHART

PAGE: 71

PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

THE DRUM DOOR HANDLE RETAINING BOLT WAS DISCOVERED TO BE BACKED OFF.

FOLLOWING CYCLE #198, THE OPERATOR DISCOVERED THAT THE DRUM DOOR RETAINING BOLT HAD BACKED OUT APPROXIMATELY 1/2 INCHES CAUSING THE HANDLE TO BE LOOSE WHEN THE DOOR WAS OPENED.

MAINTENANCE PERSONNEL DETERMINED THAT THE VIBRATION DURING THE EXTRACTION CYCLES WAS THE CAUSE.

MAINTENANCE PERSONNEL TIGHTENED THE RETAINING BOLT FIVE TURNS WITH A PAIR OF CHANNEL LOCKS.

THE DISCREPANCY WAS CORRECTED, AND OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900906
TIRM: L3-8000083 01
INC CLASS: MINOR
ACTION-TAKEN: TIGHTENED
PART NAME: REFRIGERATION UNIT
FCC: 0400
OPSHRS 128.1
PRODHR 103.3
GENHRS 129.7

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/CYE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:37	00:37

DESCRIPTION OF INCIDENT

REFRIGERATION EXPANSION VALVE LEAKING FREON 12.

DURING OPERATIONS, THE OPERATORS OBSERVED THE REFRIGERATION GAUGES CONNECTED BY THE NRDEC REPRESENTATIVE, WERE NOT INDICATING ANY REFRIGERATION PRESSURE.

A REFRIGERATION TECHNICIAN WAS CALLED TO INVESTIGATE THE DISCREPANCY.

AT 1236 HOURS, THE REFRIGERATION TECHNICIAN BEGAN TROUBLESHOOTING THE REFRIGERATION SYSTEM.

IT WAS DETERMINED THAT FREON 12 REFRIGERANT WAS LEAKING FROM THE EXPANSION VALVE, BESIDE THE POWER ELEMENT VALVE OF THE REFRIGERATION UNIT.

THE VALVE WAS TIGHTENED 1/4 TURN CORRECTING THE DISCREPANCY.

THE REFRIGERATION TECHNICIAN THEN ADDED 3 POUNDS OF FREON 12 REFRIGERATION COOLANT TO THE SYSTEM.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM TO
LADD01NO FURTHER ACTION WAS TAKEN.
OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900907

TIRD: L3-A000084 01

INC CLASS: MINOR

ACTION-TAKEN: TROUBLESHOOTING

PART NAME: STILL PALLET ASSEMBLY

FCC: 0200

OPSHRS 160.4

PRODHR 135.5

GENHRS 163.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:22	00:22

DESCRIPTION OF INCIDENT

STILL NOT FUNCTIONING PROPERLY.

DURING OPERATIONS, THE OPERATORS OBSERVED THAT THE SOLVENT RINSE TANK WAS EMPTY AND THE SOLVENT DUMP TANK WAS FULL.

THE OPERATORS OBSERVED THAT THE STILL DID NOT SEEM TO BE OPERATING. FURTHER INVESTIGATION REVEALED THAT BOTH THE "STILL READY" AND THE "STILL TRANSFER" LIGHT WERE NOT OPERATING.

AT THE COMPLETION OF CYCLE #263, THE OPERATORS MANUALLY SWITCHED THE TRANSFER SWITCH TO TRANSFER AND TRANSFERRED SOLVENT FROM THE STILL TO THE RINSE TANK.

THE SYSTEM WAS SHUT DOWN AND THE OPERATORS VISUALLY INSPECTED THE CIRCUIT BREAKERS IN ACCORDANCE WITH THE TROUBLESHOOTING PROCEDURES DIRECTED BY THE MANUAL.

NO TRIPPED CIRCUIT BREAKERS WERE OBSERVED.

THE SYSTEM WAS REINITIALIZED.

THE "STILL READY" LIGHT CAME ON, AND THEN WENT OFF APPROXIMATELY 2 SECONDS LATER.

THE SYSTEM WAS SHUT DOWN AND REINITIALIZED.

THE "STILL READY" LIGHT THEN CAME ON AND STAYED ON. THE STILL THEN BEGAN FUNCTIONING PROPERLY.

THE OPERATORS DRAINED THE SOLVENT FROM THE STILL AND TRANSFERRED IT TO THE RINSE TANK TO OBTAIN PROPER OPERATING LEVELS.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

THE CAUSE OF THE DISCREPANCY COULD NOT BE DETERMINED.
OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900910

TIRN: LS-A000085 02

INC CLASS: MAJOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: LINT TRAP DOOR

FGC: 0300

OPSHRS 176.0

PROGHR 148.4

GENHRS 179.5

SCORING INFORMATION

STEP	CLASS	CHARGE
01E (C)	ACCIDENT	CREW

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
MON UNS	CREW	CREW	CREW	00:10	00:10
CHA UNS	ORG	ORG	ORG	01:18	01:18

DESCRIPTION OF INCIDENT

OPERATOR KNOCKED DOWN WHILE OPENING LINT TRAP DOOR.

AS THE OPERATOR OPENED THE LINT TRAP DOOR ON THE SOLVENT CONTROL TRAP DUCT ASSEMBLY, HE WAS THROWN BACKWARD AGAINST A BOX APPROXIMATELY 12 FEET AWAY.

THE OPERATOR WAS KNOCKED BACK BY THE FORCE OF PRESSURE BEING EXERTED ON THE LINT TRAP DOOR.

THE OPERATOR WAS ONLY SEMI-CONSCIOUS WHEN THE SECOND OPERATOR CAME TO HIS ASSISTANCE. THE OPERATOR LAID ON THE GROUND FOR APPROXIMATELY 5 MINUTES.

WHEN HE FINALLY WAS ABLE TO GET UP, HE APPEARED VERY SHAKY AND EXTREMELY PALE.

THE OPERATOR WAS ASSISTED TO THE VEHICLE. HE WAS TRANSPORTED BACK TO THE MANDEX TRAILER, WHERE LATER, HE WAS TAKEN TO THE HOSPITAL FOR PRE-CAUTIONARY TESTS.

NO CAUSE COULD BE DETERMINED FOR THE PRESSURE BUILD UP IN THE LINT TRAP DUCT. THE SYSTEM WAS VENTED AS REQUIRED AT THE END OF THE CYCLE.

NO PRESSURE BUILD UP HAD EVER BEEN OBSERVED AT THE LINT TRAP DOOR PRIOR TO THIS INCIDENT.

THE FOLLOWING CONDITIONS WERE OBSERVED PRIOR TO THE INCIDENT:

- 1) SOLVENT HAD ACCUMULATED BEHIND THE BOTTOM TRAP DOOR.
- 2) THE BAG FILTER ASSEMBLY PRESSURE GAUGES INDICATED READINGS OF 26 PSI

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

(TOP GAUGE) AND 13 PSI (BOTTOM GAUGE) DURING THE WASH CYCLE AND 33 PSI (TOP GAUGE) AND 10 PSI (BOTTOM GAUGE) DURING THE RINSE CYCLE. THE DIFFERENCES IN PRESSURE WOULD INDICATE A FILTER CHANGE WAS REQUIRED. HOWEVER, A NEW FILTER BAG WAS INSTALLED DURING THE MORNING SHIFT.

3) THE STILL "READY" LIGHT WAS NOT ON, INDICATING THE STILL WAS NOT OPERATING PROPERLY.

4) AMBIENT TEMPERATURE WAS 117.7 DEGREES F.

5) DRUM TEMPERATURE WAS 120 DEGREES F.

NOTE - ITEMS #3, #4 & #5 WERE OBSERVED AFTER THE INCIDENT HAD OCCURRED.

IT SHOULD ALSO BE NOTED THAT WHEN THE SECOND OPERATOR APPROACHED THE STRICKEN OPERATOR THE LINT TRAP SCREEN WAS FOUND ON THE GROUND NEXT TO HIM APPROXIMATELY 8 FEET FROM THE UNIT.

THE SECOND OPERATOR STATED THAT HE HEARD A LOUD "RUSHING" SOUND AS THE FREON FORCED THE LINT TRAP DOOR OPEN. HE HEARD THIS SOUND OVER A 30KW GENERATOR WHILE WEARING HIS HEARING PROTECTION.

OPERATIONS WERE SUSPENDED, PENDING AN INVESTIGATION INTO THE CAUSE OF THE PRESSURE BUILD-UP.

11 SEP 1990, 0810 NST. (OPSHRS 176:12/PRODHRS 148:66/GENHRS 179.7)

AN INSPECTION WAS CONDUCTED BY THE PROJECT ENGINEER, HUMAN FACTORS ENGINEER, SAFETY REPRESENTATIVE, AND THE CREW COORDINATOR. THE INSPECTION REVEALED NO OBVIOUS MECHANICAL CAUSE FOR THIS INCIDENT. THE SAFETY REPRESENTATIVE WAS INSTRUCTED ON THE OPERATION OF THE LADDS AND THE SAFETY PROCEDURES UTILIZED WHILE OPERATING THE LADDS.

THE BAG FILTER ASSEMBLY WAS DRAINED BY AN OPERATOR. THE BAG FILTER ASSEMBLY COVER WAS REMOVED BY MAINTENANCE PERSONNEL AND THE INTERIOR WAS INSPECTED. THE BAG FILTER HAD LINT LINING THE SIDES AND THE BOTTOM OF THE BAG FILTER SHOWED NO EXCESSIVE BUILD-UP. THIS BAG FILTER HAD A PART LIFE OF 3:30 OPERATING HOURS. THE BAG FILTER WAS REPLACED WITH A NEW ONE. THE BAG FILTER ASSEMBLY COVER WAS REPLACED AND TIGHTENED DOWN.

A B-PHCS WAS CONDUCTED AND 403 POUNDS OF SOLVENT WAS ADDED TO THE SYSTEM.

CYCLE #292 WAS PERFORMED IN ORDER TO MONITOR THE PRESSURE AND TEMPERATURE BUILD-UP IN THE SYSTEM. THE SAFETY REPRESENTATIVE MONITORED THE OPERATIONAL AND SAFETY PROCEDURES UTILIZED BY THE OPERATORS. THE FOLLOWING TEMPERATURE AND PRESSURE READINGS WERE RECORDED FOR CYCLE #292.

START OF CYCLE TEMP:	74 DEG F.
SYSTEM DRUM PRESSURE:	0.0
BAG FILTER PRESSURE DURING THE WASH:	18 PSI UPPER GAUGE/ 18 PSI LOWER GAUGE
BAG FILTER PRESSURE DURING THE RINSE:	16 PSI UPPER GAUGE/ 16 PSI LOWER GAUGE

WASH TANK TEMPERATURE: 91 DEGREES F

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DUMP TANK TEMPERATURE: 92 DEGREES F
STILL TEMPERATURE: 110 DEGREES F
DRYING CYCLE TEMPERATURE: 88 DEGREES F

AFTER CYCLE #292 IT WAS DETERMINED BY THE PROJECT ENGINEER AND THE SAFETY REPRESENTATIVE THAT THE OPERATOR PROBABLY INHALED THE SOLVENT FUMES WHEN OPENING THE LINT TRAP DOOR CAUSING HIM TO BECOME DIZZY AND FALL BACKWARDS, AGAINST A BOX APPROXIMATELY 12 FEET AWAY. THE STRICKEN OPERATOR HAD EXPERIENCED DIZZINESS AND NAUSEA IN TWO PRIOR INCIDENTS. (REFERENCE TIR'S L3-A000024 AND L3-A000071)

THIS TIR IS BEING SCORED AS AN ACCIDENT, WITH A CATEGORY III - MARGINAL (PROBABILITY LEVEL C), AS PER MIL-STD-882B, HAZARD SEVERITY CATEGORIES.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900910
TIR#: L3-A000086 01
INC CLASS: MINOR
ACTION-TAKEN: OPERATED
PART NAME: REFRIGERATION UNIT
FCC: 0400
OPSHRS 170.1
PRODHR 143.3
GENHRS 173.0

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA	UNS	CREW	CREW CREW	CLKHRS MANHRS
				00:22 00:22

DESCRIPTION OF INCIDENT

A DECREASE IN PRESSURE WAS OBSERVED ON THE REFRIGERATION UNIT PRESSURE GAUGES.

DURING THE OPERATIONS, THE OPERATOR OBSERVED THAT DURING CYCLE #278, THE FRONT PRESSURE GAUGE DISPLAYED 11/175 DURING CYCLE #279, AND THE FRONT PRESSURE GAUGE DISPLAYED 10/110.

DURING CYCLE #279, A 15 DEGREE DROP IN TEMPERATURE WAS OBSERVED ON THE DRUM TEMPERATURE GAUGE, AND THE BOILING OF FREON 12 WAS NOT OBSERVED THROUGH THE HEATING UNIT SIGHT GLASSES.

DURING THE DRY CYCLE, FOR CYCLE #280, THE OPERATOR OBSERVED A 60 DEGREE INCREASE IN TEMPERATURE ON THE FRONT HEATING UNIT GAUGE, AND A 15 DEGREE INCREASE IN THE DRUM TEMPERATURE.

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITER 1B
LADD01

THE THREE CYCLES WERE PERFORMED CONSECUTIVELY WITHIN A 1.5 HOUR PERIOD.
THE CAUSE OF THE DISCREPANCY WAS UNDETERMINED, AND THE OPERATIONS WERE
CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900907

TIRN: L5-AC00087 01

INC CLASS: INFORMATION

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: DRUM BASKET DOOR

FCC: 0700

OPSHRS 148.6

PRODHR 123.3

GENHRS 0.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
NON	UNS	CREW	CREW	CREW
		00:00	00:00	00:00

DESCRIPTION OF INCIDENT

THE FEMALE OPERATOR COULD NOT CLOSE THE DRUM DOOR.

AT THE START OF CYCLE #238, THE FEMALE OPERATOR FAILED IN TWO
ATTEMPTS AT CLOSING THE DRUM DOOR DUE TO THE PHYSICAL STRENGTH REQUIRED. A
MALE OPERATOR ASSISTED HER IN CLOSING THE DOOR.

THE HUMAN FACTORS ENGINEER WAS PRESENT AT THE TIME OF THIS INCIDENT.

07 SEP 1990, 0706 NST (149:26 OPSHRS/124:06 PRODHRS/150.9 GENHRS)

AT THE BEGINNING OF CYCLE #239 THE FEMALE OPERATOR AGAIN MADE TWO
ATTEMPTS AT CLOSING THE DRUM DOOR. THIS EFFORT FAILED AND A MALE OPERATOR
ASSISTED HER IN CLOSING THE DOOR.

07 SEP 1990, 0740 NST (150:00 OPSHRS/124:40 PRODHRS/151.3 GENHRS)

AT THE BEGINNING OF CYCLE #240 TWO FEMALE OPERATORS ATTEMPTED TO CLOSE
THE DRUM DOOR. ON THEIR SECOND ATTEMPT THEY WERE ABLE TO CLOSE THE DRUM
DOOR.

REVISION 02/06/91 - SCORING CONFERENCE.

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PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

INC-DATE: 900910

TIRN: L5-A000088 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: LADDS

FSC: 00

OPSHRS 169.5

PRODHR 143.3

CEJHRS 172.8

SCORING INFORMATION

STEP
01F (C)

CLASS
NON-RAN

CHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE
NON SCH

USED PRESC RECON
CREW CREW CREW

ACTIVE
CLKHRS MANHRS
00:10 00:10

DESCRIPTION OF INCIDENT

THE BDU'S WERE REMOVED FROM THE SYSTEM, WEIGHED AND INSPECTED.

AFTER CYCLE #279 THE BDU'S WERE REMOVED FROM THE SYSTEM AND REPLACED WITH ANOTHER LOAD WEIGHING 85 LBS. THE BDU'S THAT WERE REMOVED HAD BEEN USED FOR THE TRAINING PHASE AND FOR OPERATIONAL TESTING.

THE BDU'S THAT WERE REMOVED WERE INSPECTED AND WEIGHED. THE FOLLOWING DATA ARE PROVIDED:

- 1) THE BEGINNING WEIGHT WAS 85 LBS.
- 2) THE ENDING WEIGHT WAS 65 LBS (20 LBS LESS).
- 3) OF THE 44 PAIR OF TROUSERS UTILIZED FOR THIS PERIOD OF TRAINING/ TESTING, ALL WERE MISSING THE LEFT AND RIGHT WAIST ADJUSTMENT STRAP AND BUCKLE.
- 4) THE LOAD OF BDU'S HAD A SLIGHT TINT OF PURPLE COLOR.

THE FOLLOWING TRAINING/OPERATIONAL DATA IS PROVIDED:

OPERATIONAL CYCLES 279
OPERATIONAL HOURS 169:59
PRODUCTION HOURS 143:35
REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 78

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900911

TIRN: L5-A000089 02

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: DRUM DOOR

FCC: 0700

OFSHRS 180.5

PRODHRS 152.2

GENHRS 184.5

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE/CYE

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC RECON	ACTIVE
CHA UNS	CREN CREN CREN	CLKHRS MANHRS 01:24 01:24

DESCRIPTION OF INCIDENT

SOLVENT SPRAYING FROM THE SOLVENT INLET OPENING AFTER OPENING THE DRUM DOOR.

UPON COMPLETION OF CYCLE #298, THE OPERATOR OPENED THE DRUM DOOR TO REMOVE THE BDU'S. SEVERAL SECONDS AFTER OPENING THE DRUM DOOR, SOLVENT BEGAN SPRAYING FROM THE SOLVENT INLET OPENING LOCATED AT THE 10 O'CLOCK POSITION AT THE ENTRANCE TO THE DRUM.

SOLVENT SPRAYED FOR APPROXIMATELY TWO SECONDS BEFORE STOPPING.

THE FOLLOWING DATA ARE THE TEMPERATURE AND THE PRESSURE GAUGE READINGS RECORDED DURING CYCLE #298:

START OF CYCLE DRUM TEMP	100 DEG F
SYSTEM DRUM PRESSURE	1.0 PSI
BAG FILTER PRESSURE DURING THE WASH	8 PSI UPPER GAUGE/ 8 PSI LOWER GAUGE
BAG FILTER PRESSURE DURING THE RINSE	14 PSI UPPER GAUGE/ 13 PSI LOWER GAUGE
AMBIENT TEMP	116 DEG F

WASH TANK TEMP	DUMP TANK TEMP	STILL TEMP	DRYING CYCLE TEMP
112 DEG F	110 DEG F	116 DEG F	110 DEG F

11 SEP 1990, 1643 MST, (OFSHRS 182:09/PRODHRS 153:25/GENHRS 185.7)
AFTER COMPLETING CYCLE #300, THE OPERATOR MANUALLY VENTED THE SYSTEM THEN OPENED THE DRUM DOOR. SEVERAL SECONDS AFTER OPENING THE DRUM DOOR, SOLVENT BEGAN SPRAYING FROM THE SAME LOCATION AS PREVIOUSLY OBSERVED UPON COMPLETION OF CYCLE #298.

SOLVENT SPRAYED FROM THE SOLVENT INLET OPENING FOR APPROXIMATELY SEVEN SECONDS. THE OPERATOR USED THE EMERGENCY SHUT-OFF SWITCH STOPPING THE

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PAGE: 79

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

OPERATIONS OF THE SYSTEM (SPRAYING STOPPED).

THE OPERATOR DRAINED THE BAG FILTER ASSEMBLY OF SOLVENT. THIS MAINTENANCE ACTION WAS TAKEN TO REMOVE SOLVENT FROM THE SYSTEM AND RELIEVE ANY POSSIBLE PRESSURE ACCUMULATION BETWEEN THE BAG FILTER AND THE DRUM AND BASKET ASSEMBLY.

THE FOLLOWING DATA ARE THE TEMPERATURE AND THE PRESSURE GAUGE READINGS RECORDED DURING CYCLE #300:

START OF CYCLE DRUM TEMP	98 DEG F
SYSTEM DRUM PRESSURE	2.0 PSI
BAG FILTER PRESSURE DURING WASH	12 PSI UPPER GAUGE/ 10 PSI LOWER GAUGE
BAG FILTER PRESSURE DURING RINSE	11 PSI UPPER GAUGE/ 10 PSI LOWER GAUGE
AMBIENT TEMP	116 DEG F

WASH TANK TEMP	DUMP TANK TEMP	STILL TEMP	DRYING CYCLE TEMP
112 DEG F	112 DEG F	116 DEG F	114 DEG F

11 SEP 1990, 1731 MST (CPSHRS 182:53/PRODHRS 153:58/GENHRS 186.4)

AFTER COMPLETING CYCLE #301, THE OPERATOR MANUALLY VENTED THE SYSTEM AND THEN OPENED THE DRUM DOOR. SEVERAL SECONDS AFTER OPENING THE DRUM DOOR SOLVENT SPRAYED FROM THE SOLVENT INLET OPENING FOR APPROXIMATELY 5 TO 8 SECONDS.

THE FOLLOWING DATA ARE THE TEMPERATURE AND PRESSURE GAUGE READINGS RECORDED DURING CYCLE #301:

START OF CYCLE DRUM TEMP	106 DEG F
SYSTEM DRUM PRESSURE	2.0 PSI
BAG FILTER PRESSURE DURING THE WASH	11 PSI UPPER GAUGE/ 10 PSI LOWER GAUGE
BAG FILTER PRESSURE DURING THE RINSE	11 PSI UPPER GAUGE/ 9 PSI LOWER GAUGE
AMBIENT TEMP	110 DEG F

WASH TANK TEMP	DUMP TANK TEMP	STILL TEMP	DRYING CYCLE TEMP
112 DEG F	114 DEG F	116 DEG F	112 DEG F

12 SEP 1990, 0725 MST. (OPSHRS 183:45/PRODHRS 153:58/GENHRS 187.2)

THE SYSTEM WAS RELOCATED TO THE OPPOSITE SIDE OF THE SHADED AREA IN AN ATTEMPT TO AVOID THE DIRECT AFTERNOON SUNLIGHT. ONE HUNDRED AND TWENTY FEET OF SHADE MATERIAL WAS HUNG IN APPROPRIATE AREAS TO FURTHER ASSIST IN BLOCKING THE DIRECT AFTERNOON SUNLIGHT.

THIS ACTION WAS TAKEN IN ORDER TO PREVENT THE EXCESSIVE PRESSURE ACCUMULATION CAUSED BY THE HIGH AFTERNOON TEMPERATURES.

THE OPERATIONS WERE PERFORMED THROUGH THE REMAINDER OF THE DAY WITH NO RELATIVE DISCREPANCIES, AND NO FURTHER MAINTENANCE ACTION WAS TAKEN.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

REVISED 01 OCT 90 TO REFLECT THE SCORING CONFERENCE RESULTS/DIRECTIONS.
THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
41	04U	01F
42	U1A	MON RAN

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900911

TIRN: LS-A000090 02

INC CLASS: MINOR

ACTION-TAKEN: INSPECTED

PART NAME: LADDS

FCC: 0000

OPSHRS 176.5

PRODHR 149.1

GENHRS 180.4

SCORING INFORMATION

STEP	CLASS	CHARGE
04S (C)	SNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA SCH	ORG	ORG	ORG	CLKHRS MANHRS
				01:13 01:13

DESCRIPTION OF INCIDENT

THE MONTHLY PMCS WAS PERFORMED.

THE MONTHLY PMCS WAS PERFORMED IAW DEP10-3510-221-14, WITH THE FOLLOWING ITEMS EXCLUDED:

- 1) SOLVENT TANK, ITEM #1, B, C AND F
- 2) ITEM #2; A AND D
- 3) ITEM #8; A AND B
- 4) ITEM #9; A
- 5) ITEM #10; C

THESE ITEMS WERE NOT PERFORMED DUE TO THE LACK OF REPLACEMENT PARTS THAT WERE NOT INCLUDED IN THE SYSTEM SUPPORT PACKAGE.

REVISED 01 OCT 90 TO UPDATE THE DATA/NARRATIVE FOR DEFERRED MAINTENANCE ACTIONS TAKEN.

ON 09-17-90 AT 1401 (MST) WITH THE OPNRS 192:29, PRODHR 161:00, GENHRS 198:7, CYCLES 315, AND 0 MILES, THE MRDEC REPRESENTATIVE PERFORMED THE CLEANING OF THE BUFFER FILTER PADS, IAW DEP 10-3510-221-14, AS FOLLOWS:

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

THE BUFFER PAD FILTERS WERE REMOVED, AND A SMALL AMOUNT OF SOLVENT WAS DRAINED TO GAIN ACCESS TO THE TWO PADS.

THE PADS WERE REMOVED, AND WERE CLEANED WITH WATER.

THE PADS WERE REINSTALLED, COMPLETING THE MAINTENANCE ACTION.

THE MAINTENANCE ACTION WAS DEFERRED UNTIL THIS TIME DUE TO TECHNICAL MANUAL SHORTCOMINGS. THE LOCATION OF THE PADS COULD NOT BE ESTABLISHED FROM THE MANUAL, AND COULD ONLY BE PERFORMED UNDER THE INSTRUCTION OF THE MRDEC REPRESENTATIVE.

THE DATA IN SECTIONS I-IV WERE CHANGED AS FOLLOWS:

BLOCK#	FROM	TO
90	AS IS	ADD NEW NARRATIVE

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900911
TIRM: LS-A000091 01
INC CLASS: MINOR
ACTION-TAKEN: OPERATED
PART NAME: RINSE TANK, SOLVENT
FGC: 0100
OPSHRS 177.3
PRODHR 149.3
GENHRS 181.0

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MAHRS
CHA UNS	CREW	CREW	CREW	00:15	00:15
CHA UNS	ORG	ORG	ORG	00:34	00:34

DESCRIPTION OF INCIDENT

EXCESSIVE SOLVENT WAS PUMPED FROM THE RINSE TANK TO THE DRUM & BASKET.

DURING THE FIRST ATTEMPT AT CYCLE #293, THE OPERATOR FAILED TO DEPRESS THE MANUAL OVERRIDE SWITCH DURING THE RINSE CYCLE, RESULTING IN AN EXCESSIVE AMOUNT OF SOLVENT FLOWING TO THE DRUM & BASKET.

SOLVENT WAS PUMPED FROM THE WASH TANK TO THE DUMP TANK IN AN ATTEMPT TO CORRECT THE DISCREPANCY.

TWO ATTEMPTS WERE MADE DURING THE RINSE CYCLE TO DRAIN THE EXCESSIVE SOLVENT FROM THE DRUM & BASKET. THE ATTEMPTS WERE UNSUCCESSFUL.

MAINTENANCE PERSONNEL INSPECTED THE ELECTRICAL PANEL AND DISCOVERED

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SUPPORTABILITY ANALYSIS CHART

PAGE: 82

PROJECT NUMBER
9-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THAT THE CIRCUIT BREAKER, NP30, HAD BEEN REENGAGED DUE TO THE EXCESSIVE WEIGHT OF THE SOLVENT IN THE DRUM.

A FINAL ATTEMPT WAS MADE DURING CYCLE #293, AND NO DISCREPANCIES WERE OBSERVED.

THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900912
TIRM: L5-A000092 01
INC CLASS: MINOR
ACTION-TAKEN: TIGHTENED
PART NAME: DRUM: DOOR HANDLE
FGC: 0700
OPSHRS 184.3
PRODHR 154.2
GENHRS 187.9

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:01	00:01

DESCRIPTION OF INCIDENT

THE DRUM DOOR HANDLE WAS LOOSE.

DURING CYCLE #302, THE OPERATOR DISCOVERED THAT THE HANDLE OF THE DRUM DOOR WAS LOOSE. THE RETAINING BOLT WAS BACKED OUT APPROXIMATELY ONE EIGHTH OF AN INCH.

MAINTENANCE PERSONNEL TIGHTENED THE LOOSE BOLT ONE FULL TURN (360 DEG) USING A PAIR OF CHANNEL LOCKS.

NO FURTHER ACTION WAS TAKEN OR REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-IS-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900912
TIRM: L5-A000093 01
INC CLASS: MINOR
ACTION-TAKEN: SERVICED
PART NAME: CIRCUIT BREAKER NP-30
FCC: 0900
OPSHRS 185.2
PRODHR 155.1
GENHRS 188.9

SCORING INFORMATION

STEP	CLASS	CHARGE
42- (C)	CCMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
NON UNS	ORG	ORG		00:02	00:02

DESCRIPTION OF INCIDENT

CIRCUIT BREAKER NP-30 WAS TRIPPED.

DURING THE EXTRACTION CYCLE (BETWEEN THE WASH AND RINSE CYCLE OF CYCLE #304), THE OPERATOR OBSERVED THAT THE DRUM/BASKET WAS NOT SPINNING AT THE NORMAL EXTRACTION SPEED OF 350 RPMs. THE DRUM/BASKET WAS TURNING AT ITS NORMAL ROTATION SPEED OF 35 RPMs.

THE EMERGENCY SHUT-OFF BUTTON WAS PUSHED BY THE OPERATOR. THE SYSTEM WAS SHUT DOWN AND THE ELECTRICAL PANEL DOOR WAS OPENED. CIRCUIT BREAKER NP-30 WAS OBSERVED TO BE TRIPPED. THE CIRCUIT BREAKER WAS RESET, CORRECTING THE DISCREPANCY.

NO CAUSE COULD BE DETERMINED, AS TO WHY THE CIRCUIT BREAKER WAS TRIPPED.

OPERATIONS WERE CONTINUED.

NO FURTHER ACTION WAS TAKEN.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 04

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADDO1*****
INC-DATE: 900912

TIRB: LS-A000094 02

INC CLASS: MINOR

ACTION-TAKEN: CLEANED

PART NAME: STILL PALLET ASSEMBLY

FCC: 0200

OPSHRS 190.2

PRODHR 159.3

GENHRS 194.0

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	01:48	02:37
CHA UMS	GS	GS	GS	02:24	02:24
CHA UMS	ORG	ORG	ORG	01:22	01:22

DESCRIPTION OF INCIDENT

STILL NOT TRANSFERRING SOLVENT.

DURING OPERATIONS, THE OPERATOR OBSERVED THAT THE STILL WAS NOT TRANSFERRING SOLVENT AS IT IS REQUIRED TO DO.

DURING THE DRY CYCLE, THE OPERATOR OBSERVED THAT THE WASH TANK WAS ONLY HALF FULL, THE RINSE TANK WAS EMPTY AND THE DUMP TANK WAS FULL.

THE WASH TANK SHOULD HAVE BEEN FULL AND THE RINSE TANK SHOULD HAVE BEEN IN THE PROCESS OF REFILLING.

THE STILL "READY" LIGHT AND THE STILL "TRANSFER" LIGHT WERE BOTH ON, INDICATING THAT A SOLVENT TRANSFER SHOULD BE IN PROGRESS.

NO TRANSFER OF SOLVENT COULD BE OBSERVED BY THE OPERATOR.

THE UNIT WAS SHUT DOWN. SOLVENT THEN HAD TO BE MANUALLY DRAINED FROM THE STILL INTO A BUCKET AND THEN PUMPED FROM THE BUCKET INTO THE RINSE TANK.

THIS ACTION CORRECTED THE DEFICIENT SOLVENT LEVELS IN THE RINSE AND WASH TANKS. OPERATIONS WERE THEN ABLE TO BE CONTINUED.

NO CAUSE COULD BE DETERMINED FOR THE DISCREPANCY.

OPS - 192:13; PROD - 160.44; GEN - 195.8; CYCLES - 315

OPERATORS AGAIN OBSERVED THAT THE STILL WAS NOT TRANSFERRING SOLVENT.

THE WASH TANK WAS OBSERVED TO BE ONLY ONE-QUARTER FULL AND THE RINSE TANK WAS EMPTY.

THE STILL WAS OBSERVED TO HAVE BEEN WORKING CONTINUOUSLY FOR 2 HOURS AND WAS NOT TRANSFERRING SOLVENT.

OPERATIONS WERE HALTED AT 2143 HOURS DUE TO PROBLEMS WITH THE STILL.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

13 SEP 1990, AT 0253 (NST), WITH THE OPSHRS AT 192:29, PRODHRS 161:00, GENHRS 196:1, CYCLES 315, AND THE MILES AT 0, THE OPERATOR REPORTED THAT THE STILL WAS NOT PUMPING SOLVENT TO THE RINSE TANK AT THIS TIME. THE "STILL READY" AND THE "STILL TRANSFER" LIGHTS ACTIVATED.

THE OPERATOR PERFORMED A VISUAL INSPECTION OF THE SYSTEM. NO CAUSE COULD BE DETERMINED. THE OPERATOR REPORTED THAT THE PNEUMATIC SYSTEM WAS FUNCTIONAL.

THE OPERATOR ACTIVATED THE MANUAL TRANSFER SWITCH FOR 10 MINUTES IN ATTEMPTS TO TRANSFER SOLVENT FROM THE STILL TO THE RINSE TANK. THE ATTEMPT WAS UNSUCCESSFUL.

THE PROJECT ENGINEER MADE A VISUAL INSPECTION OF THE SYSTEM AND HALTED OPERATIONS, PENDING FURTHER INSTRUCTION

REVISION #1 DATE 18 SEPT OPSHRS PRODHRS TIME 0751 NST

ON 09-17-90, AT 0751 (NST), WITH THE OPSHRS 192:29, PRODHRS 161:00, GENHRS 197.3, CYCLES 315, AND 0 MILES, THE M. R. D. E. C. REPRESENTATIVE PERFORMED A VISUAL INSPECTION, AND BEGAN TROUBLESHOOTING ON THE ELECTRICAL SYSTEM AND THE STILL TRANSFER PUMP.

THE STILL ASSEMBLY PNEUMATIC AND SOLVENT LINES WERE DISCONNECTED TO GAIN ACCESS TO THE TRANSFER PUMP.

THE STILL MOUNTING BOLTS AND THE DRUM BELT SAFETY COVER WERE REMOVED.

THE STILL ASSEMBLY WAS MOVED TO ONE SIDE WITH A FORKLIFT, AND THE TRANSFER PUMP ELECTRICAL WIRING WAS INSPECTED. THE TRANSFER PUMP WAS FOUND TO BE FUNCTIONING PROPERLY.

THE SOLVENT LINES WERE INSPECTED FOR BLOCKAGE, AND DEBRIS WAS DISCOVERED IN THE TRANSFER PUMP OUTPUT CHECK VALVE.

THE CHECK VALVE WAS CLEANED, AND THE OUTPUT LINE WAS PURGED.

THE CLEANED CHECK VALVE WAS REINSTALLED, AND THE SOLVENT LINES WERE RECONNECTED.

THE STILL WAS LIFTED BACK INTO PLACE, AND THE STILL MOUNTING BOLTS WERE REINSTALLED.

THE STILL SERVICE LINES WERE RECONNECTED, AND THE ELECTRICAL PANEL WAS REINSTALLED.

THE DISCREPANCY WAS CORRECTED, AND THE OPERATIONS BEGAN.

BLOCK #	FROM	TO
41	02	04U
42	CCNA	UMA
49	NOT APPLICABLE	REWORKED
57	OTHER SEE BLK 90	CLEANED
63	0.00 OPSHRS 0.00	190.23 OPSHRS 192.29
64	0.00 PRODHRS 0.00	159.33 PRODHRS 161.00
65	0.00 GENHRS 0.00	194.00 GENHRS 197.30
90	AS WAS	ADDED NEW NARRATIVE

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900912

TIR#: L5-A000093 01

INC CLASS: MINOR

ACTION-TAKEN: TIGHTENED

PART NAME: LINT TRAP DUCT

FGC: 0300

OPSHRS 183.4

PRODHR 153.6

GENHRS 187.2

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:09	00:09

DESCRIPTION OF INCIDENT

A CLASS 2 SOLVENT LEAK WAS OBSERVED AT THE LINT FILTER DUCT GASKET.

WHILE MOVING THE SYSTEM WITHIN THE SHADED AREA (LAUNDRY SITE), AN OPERATOR OBSERVED A CLASS II SOLVENT LEAK AT THE LINT FILTER DUCT GASKET. THE MAINTENANCE PERSONNEL TIGHTENED THE 10 CONTROL TRAP BOLTS ONE HALF TURN EACH, CORRECTING THE DISCREPANCY. THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900912

TIR#: L5-A000096 02

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: BAG FILTER

FGC: 1000

OPSHRS 186.2

PRODHR 156.0

GENHRS 190.0

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:08	00:08

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

BAG FILTER WAS REPLACED

DURING OPERATIONS OF CYCLE #305 THE OPERATOR OBSERVED THAT THE DIFFERENCE BETWEEN THE UPPER AND LOWER BAG FILTER PRESSURE GAUGES WAS 11 POUNDS.

A DIFFERENCE OF 10 POUNDS OR MORE INDICATES THAT A REPLACEMENT OF THE BAG FILTER IS REQUIRED.

UPON COMPLETION OF CYCLE 305, THE OPERATORS REMOVED THE OLD BAG FILTER AND REPLACED IT WITH A NEW BAG FILTER.

NO FURTHER ACTION WAS REQUIRED.

OPERATION CONTINUED.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900912
TIRB: L5-A000097 01
INC CLASS: MINOR
ACTION-TAKEN: NO ACTION TAKEN
PART NAME: BUTTON TRAP DOOR
FGC: 0300
OPSHRS 190.5
PRODHR 160.0
GENHRS 194.5

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCNA	HARDWARE/GFE

MAINT INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CREW	CREW	CREW	CLKHRS MAHRS 00:01 00:01

DESCRIPTION OF INCIDENT

SOLVENT SPILL AT BUTTON TRAP DOOR

UPON COMPLETION OF CYCLE #313 THE OPERATOR OPENED THE BUTTON TRAP DOOR ON THE SOLVENT CONTROL DUCT, TO CLEAN THE SCREEN.

NO EXCESS SOLVENT WAS PRESENT IN THE SOLVENT CONTROL DUCT BUTTON TRAP.

AFTER SEVERAL SECONDS DELAY THE LEVEL OF SOLVENT IN THE TRAP BEGAN TO RISE, SPILLING OUT.

THE OPERATOR QUICKLY CLOSED THE BUTTON TRAP DOOR AND THE SOLVENT STOPPED SPILLING OUT.

NO CAUSE COULD BE DETERMINED FOR THE RISE IN THE SOLVENT LEVEL IN THE BUTTON TRAP.

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PROJECT NUMBER
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PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

NO ACTION WAS TAKEN.
OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900917

FORM: LS-A000098 01

TAC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PAW: NAME: BOLT

FCC: 0700

OPSHRS 192.3

PSDHR 161.0

CE HRC 295.5

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAB	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC RECON	ACTIVE
CRA UNS	CREW CREW CREW	CLKHRS MANHRS 00:01 00:01

DESCRIPTION OF INCIDENT

THE TWO DRUM DOOR HINGE ALIGNMENT BOLTS WERE DISCOVERED TO BE MISSING.

DURING THE UNSCHEDULED MAINTENANCE, THE OPERATOR DISCOVERED THAT THE TWO DRUM DOOR HINGE ALIGNMENT BOLTS WERE MISSING.

THE CAUSE WAS UNDETERMINED, AND THE CORRECTIVE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

THE OPERATIONS WERE NOT IMPAIRED, AND WERE CONTINUED.

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900918
TIRM: L5-A000099 01
INC CLASS: MINOR
ACTION-TAKEN: ADJUST
PART NAME: STILL
FCC: 0200
OPSHRS 199.2
PRODR 167.1
GENHRS 205.6

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:02	00:02

DESCRIPTION OF INCIDENT

THE STILL WAS TRANSFERRING SOLVENT SLOWLY TO THE RINSE TANK.

FOLLOWING CYCLE #328, THE OPERATOR REPORTED THAT THE STILL WAS TRANSFERRING SOLVENT TO THE RINSE TANK AT A SLOW RATE.

THE MAINTENANCE PERSONNEL ADJUSTED THE STILL THERMOSTAT FROM 204 DEGREES F TO 210 DEGREES F. THE THERMOSTAT HAD BEEN OFFSET DURING UN-SCHEDULED MAINTENANCE THE PREVIOUS DAY. THE ADJUSTMENT WAS MADE AS PER THE PROJECT ENGINEER.

THE DISCREPANCY WAS CORRECTED AND THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 90

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900917

TIRN: L3-A000100 01

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: BAG FILTER

FCC: 1000

OPSHRS 194.1

PRODNR 162.3

GENHRS 199.9

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREN	CREN	CREN	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:09	00:09

DESCRIPTION OF INCIDENT

THE BAG FILTER WAS REPLACED

DURING CYCLE #318, THE OPERATOR OBSERVED THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 28 PSI AND THE LOWER BAG FILTER PRESSURE GAUGE INDICATED 15 PSI.

THE DIFFERENCE OF 13 PSI INDICATED THAT THE BAG FILTER NEEDED TO BE REPLACED.

AFTER CYCLE 318, MAINTENANCE PERSONNEL REMOVED THE COVER TO THE BAG FILTER COMPARTMENT. MAINTENANCE PERSONNEL DRAINED AND REMOVED THE BAG FILTER AND INSTALLED A NEW ONE. THE SOLVENT WAS REPLACED. THE O-RING AND COVER WERE REPLACED AND TIGHTENED.

NO FURTHER ACTION WAS REQUIRED.

OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 91

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900918

TIR#: L5-A000101 02

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: BAG FILTER

FCC: 1000

OPSHRS 202.1

PRODHR 170.0

GENHRS 208.6

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01	
CHA UNS	ORG	ORG	ORG	00:10	00:11	

DESCRIPTION OF INCIDENT

THE BAG FILTER WAS DISCOVERED TO BE CLOGGED AND WAS REPLACED.

DURING CYCLE #334, THE OPERATOR OBSERVED THAT THE PRESSURE GAUGES READ 5/100 AND 20/225, INDICATING A POSSIBLE CLOGGED BAG FILTER.

THE MAINTENANCE PERSONNEL DRAINED THE BAG FILTER ASSEMBLY AND REMOVED THE COVER PLATE.

FURTHER INVESTIGATION REVEALED THAT THE BAG FILTER REQUIRED REPLACEMENT DUE TO EXCESSIVE DEBRIS ALONG THE INSIDE OF THE FILTER.

THE OLD BAG FILTER WAS REMOVED AND THE NEW BAG FILTER (P/N P/100) WAS INSTALLED.

THE ORIGINAL O-RING WAS REINSTALLED AND THE DRAINED SOLVENT WAS PUMPED BACK INTO THE BAG FILTER ASSEMBLY.

THE COVER PLATE WAS REINSTALLED.

AT 1200 (NST), WITH THE OPHRS 206:03, PRODHR 173:26, GENHRS 212.7, CYCLES 339, AND 0 HILES, THE MAINTENANCE PERSONNEL REMOVED THE OLD BAG FILTER O-RING AND INSTALLED A NEW O-RING (P/N 29178-50).

THE DISCREPANCY WAS CORRECTED AND THE OPERATIONS WERE CONTINUED.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900919

TIRM: L5-A000102 01

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: BAG FILTER

FGC: 1000

OPSHRS 215.4

PRODHR 182.2

GENHRS 222.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UWS	CREW	CREW	CREW	00:01	00:01
CHA UWS	ORG	ORG	ORG	00:08	00:08

DESCRIPTION OF INCIDENT

THE BAG FILTER WAS REPLACED.

DURING CYCLE #356, THE OPERATOR OBSERVED THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 32 PSI AND THE LOWER BAG FILTER PRESSURE GAUGE INDICATED 12 PSI. THE 20 PSI DIFFERENCE INDICATED THAT THE BAG FILTER NEEDED TO BE CHANGED.

AFTER CYCLE #356, MAINTENANCE PERSONNEL REMOVED THE COVER TO THE BAG FILTER COMPARTMENT. MAINTENANCE PERSONNEL DRAINED AND REMOVED THE BAG FILTER AND INSTALLED A NEW ONE. THE SOLVENT WAS REPLACED. THE "O" RING AND COVER WERE REPLACED AND TIGHTENED.

NO FURTHER ACTION WAS REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 93

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900920
TIRB: LS-A000103 02
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: BAG FILTER
FCC: 1000
OPSHRS 234.3
PPODHR 199.4
GENHRS 240.1

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREH	CREH	CREH	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:10	00:10

DESCRIPTION OF INCIDENT

BAG FILTER AND O-RING WERE REPLACED.

DURING CYCLE #387, THE OPERATOR OBSERVED THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 26 PSI AND THE LOWER BAG FILTER PRESSURE GAUGE INDICATED 16 PSI.

THE DIFFERENCE OF 10 PSI INDICATED THAT THE BAG FILTER NEEDED TO BE REPLACED.

AFTER CYCLE #387, MAINTENANCE PERSONNEL DRAINED THE BAG FILTER COMPARTMENT AND REMOVED THE COVER. THE OLD BAG FILTER WAS REMOVED AND A NEW BAG FILTER WAS INSTALLED.

THE BAG FILTER ASSEMBLY "O" RING SEAL WAS REMOVED AT THIS TIME AND A NEW "O" RING SEAL WAS INSTALLED.

THE OLD "O" RING SHOWED SIGNS OF WEAR.

THE SOLVENT WAS REPLACED.

THE COVER WAS THEN REPLACED AND TIGHTENED DOWN.

NO FURTHER ACTION WAS REQUIRED.

OPERATIONS CONTINUED.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 94

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900918

TIRN: L5-A000104 01

INC CLASS: NIMOR

ACTION-TAKEN: OPERATED

PART NAME: CONTROL TRAP ASSEMBLY

FGC: 0300

OPSHRS 201.6

PRODHR 169.3

GENHRS 208.4

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	HAMHRS
CNA UMS	CREW	CREW	CREW	00:01	00:01

DESCRIPTION OF INCIDENT

SOLVENT WAS DISCOVERED IN THE LOWER PORTION OF THE CONTROL TRAP.

FOLLOWING CYCLE W334, THE OPERATOR DISCOVERED SOLVENT IN THE LOWER PORTION OF THE CONTROL TRAP. THE CAUSE WAS UNDETERMINED.

NO CORRECTIVE MAINTENANCE ACTION WAS TAKEN AT THIS TIME, AND THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900918

TIRN: L5-A000105 03

INC CLASS: NIMOR

ACTION-TAKEN: REPAIRED

PART NAME: REFRIGERATION UNIT

FGC: 0400

OPSHRS 205.0

PRODHR 172.3

GENHRS 211.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	HAMHRS
CNA UMS	CREW	CREW	CREW	00:01	00:01
CNA UMS	GS	ORG	ORG	01:59	01:59

DESCRIPTION OF INCIDENT

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 95

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADU01

REFRIGERANT LEAK WAS DISCOVERED ON THE RECIPROCATING COMPRESSOR.

DURING CYCLE #339, THE OPERATOR REPORTED A LOW REFRIGERATION GAUGE READING OF 10/100.

THE NRDEC REPRESENTATIVE PERFORMED TROUBLESHOOTING ON THE REFRIGERATION SYSTEM WITH A LEAKTEC DETECTOR.

A PINHOLE SIZE LEAK WAS DISCOVERED IN THE DIAPHRAGM ON THE THERMOSTATIC EXTENSION VALVE, LOCATED ON THE UNDERSIDE OF THE RECIPROCATING COMPRESSOR.

THE COMPRESSOR FLARE FITTING CAP AND THE THERMOSTATIC EXTENSION VALVE DIAPHRAGM WERE TIGHTENED, CORRECTING THE DISCREPANCY.

THE OPERATIONS WERE CONTINUED.

REVISION #1 DATE 11/16/90 HILES 0.0 HOURS 205.02 TIME 1400 NST
TO CORRECT DATA:

BLOCK#	FROM	TO
21	204.84	205.02
22	172.29	172.47
23	211.00	211.30
57	OTHER, SEE BLK 90	REPAIRED
63	204.84 OPSHRS 204.84	205.02 OPSHRS 205.02
64	172.29 PRODHRS 172.29	172.47 PRODHRS 172.47
65	211.00 GENHRS 211.00	211.3 GENHRS 211.3

REVISION #2 DATE 11/29/90
TO CORRECT AN ERRONEOUS ENTRY.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900920
TIR#: L5-A000106 01
INC CLASS: MINOR
ACTION-TAKEN: REPAIRED
PART NAME: ELBOW
FCC: 0400
OPSHRS 229.0
PRODHRS 194.1
GENHRS 234.8

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONT/UNA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
LNA UNS	CREW	CREW	CREW	CLKHRS HANHRS
CHA UNS	CS	ORG	ORG	00:01 00:01
				04:41 05:15

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 96

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

A REFRIGERANT LEAK WAS FOUND IN THE COMPRESSOR SUCTION LINE ELBOW.

DURING CYCLE #383, THE OPERATOR REPORTED A LOW REFRIGERATION GAUGE READING OF 14/95.

THE MRDEC REPRESENTATIVE BEGAN TROUBLESHOOTING ON THE SYSTEM.

THE STILL SERVICE LINES WERE DISCONNECTED, AND THE STILL WAS MOVED TO ONE SIDE WITH FORKLIFT.

THE TROUBLESHOOTING CONTINUED, AND A HAZELINE CRACK IN THE SOLDER JOINT OF THE COMPRESSOR SUCTION LINE ELBOW APPROXIMATELY 2 INCHES FROM THE COMPRESSOR WAS OBSERVED.

THE TROUBLESHOOTING WAS CONTINUED, AND THE SYSTEM WAS EVACUATED.

THE CRACK WAS SOLDERED, AND LEAKAGE WAS STILL DETECTED. THE CRACK WAS RESOLDERED, AND NO FURTHER LEAKAGE WAS DETECTED.

THE COMPRESSOR CAP WAS REPLACED AS PART OF PREVENTATIVE MAINTENANCE, AS PER THE MRDEC REPRESENTATIVE.

FURTHER INSPECTION OF THE SUCTION LINE ELBOW REVEALED LEAKAGE.

THE SYSTEM WAS EVACUATED AND THE CRACK WAS RESOLDERED. NO FURTHER LEAKAGE WAS DETECTED FOLLOWING THIS ACTION.

A VACUUM PUMP WAS USED TO REMOVE AIR FROM THE SYSTEM, AND THE SYSTEM WAS RECHARGED WITH FREON 12.

THE REFRIGERATION LINES WERE INSULATED WITH FOAM RUBBER AND GUNNER'S TAPE.

THE STILL WAS REINSTALLED, AND THE SERVICE LINES WERE RECONNECTED.

THE DISCREPANCY WAS CORRECTED, AND THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900920

TIRD: LS-A000107 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: UNUSUAL ROTATION OF DR

FCC: 0700

OPSHRS 231.4

PRODHR 196.2

GENHRS 237.1

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC RECOM	ACTIVE
NON UMS	CREW CREW CREW	CLKHRS HANHRS 00:10 00:10

DESCRIPTION OF INCIDENT

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 97

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

UNUSUAL AMOUNT OF ROTATION OF DRUM DURING CYCLE #383.

DURING CYCLE #383, THE OPERATOR OBSERVED THAT THE DRUM CONTINUED TO SPIN FROM THE WASH EXTRACT CYCLE TO THE DRY CYCLE NON-STOP. ONCE IN THE DRY CYCLE, THE SYSTEM FUNCTIONED PROPERLY.

THE CAUSE OF THE DISCREPANCY WAS UNDETERMINED. NO CORRECTIVE MAINTENANCE ACTION, WAS TAKEN AT THIS TIME AND THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900919

TIRN: L3-A000100 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: FLARE NUT

FCC: 0400

OPSHRS 215.1

PROGHR 181.3

GENHRS 221.8

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONF/UHA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	CS	02:47	02:47

DESCRIPTION OF INCIDENT

REFRIGERANT LEAKAGE WAS DISCOVERED IN THE CAPILLARY TUBING CONNECTOR FLARE.

DURING CYCLE #355, THE OPERATOR REPORTED A LOW REFRIGERATION GAUGE READING OF 10/100.

THE M.R.D.E.C. REPRESENTATIVE REMOVED THE DRUM BELT COVER, AND BEGAN TROUBLESHOOTING THE REFRIGERATION SYSTEM WITH A LEAK TEC DETECTOR.

THE DRUM ROTATION WAS BYPASSED BY DEACTIVATING THE ELECTRICAL PANEL DRUM BREAKER SWITCH. THE SYSTEM WAS PAUSED IN THE "DRY" MODE FOR TROUBLESHOOTING PURPOSES.

THE CONDENSOR GUARD AND THE PRESSURE CONTROL COVER WERE REMOVED TO GAIN BETTER ACCESS TO THE SYSTEM.

THE SYSTEM WAS PRESSURIZED WITH NITROGEN REVEALING LEAKAGE IN THE CAPILLARY TUBING CONNECTOR FLARE AT THE HIGH HEAD PRESSURE CONTROLLER.

THE CONNECTION WAS REFLARED AND WAS CHECKED FOR LEAKAGE. ONCE AGAIN, LEAKAGE WAS OBSERVED AT THE SAME FLARE NUT.

THE FLARE NUT (P/N-UNKNOWN) WAS REPLACED, AND NO FURTHER LEAKAGE WAS DETECTED.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 98

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

THE FREON 12 REFRIGERANT WAS EXTRACTED FROM THE SYSTEM WITH A VACUUM PUMP, AND THE SYSTEM WAS CHARGED WITH 20 POUNDS OF FREON 12 REFRIGERANT. THE DISCREPANCY WAS CORRECTED, AND THE OPERATIONS WERE CONTINUED. REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900921

TIRB: LS-A000109 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: CONTROL BOX

FGC: 0100

OPSHRS 247.0

PRODHR 208.2

GENHRS 232.6

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CS	ORG	ORG	CLKHRS MANHRS 00:15 00:15

DESCRIPTION OF INCIDENT

MOISTURE WAS DISCOVERED IN THE WASH TANK CONTROL BOX.

DURING THE UNSCHEDULED MAINTENANCE, THE M.R.D.E.C. REPRESENTATIVE DISCOVERED MOISTURE IN THE WASH TANK CONTROL BOX. THE CAUSE WAS UNDETERMINED.

THE BOX WAS SEALED WITH JOINT SEALANT, CORRECTING THE DISCREPANCY. THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 99

PROJECT NUMBER
0-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900921
TIRD: L3-A000110 02
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: BAG FILTER
FGC: 1000
OPSHRS 238.6
PROGHR 219.4
GENHRS 264.7

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	HANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:10	00:10

DESCRIPTION OF INCIDENT

BAG FILTER AND O-RING REPLACED.

DURING CYCLE #429, THE OPERATOR OBSERVED THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 25 PSI AND THE LOWER BAG FILTER PRESSURE GAUGE INDICATED 15 PSI. THE 10 PSI DIFFERENCE INDICATED THAT THE BAG FILTER NEEDED TO BE CHANGED.

AFTER CYCLE #429, MAINTENANCE PERSONNEL DRAINED THE BAG FILTER COMPARTMENT AND REMOVED THE COVER. THE BAG FILTER WAS REMOVED AND A NEW BAG FILTER WAS INSTALLED.

A NEW BAG FILTER "O" RING SEAL WAS INSTALLED, DUE TO THE OLD "O" RING BEING STRETCHED.

THE SOLVENT WAS REPLACED.

THE COVER WAS REPLACED AND TIGHTENED.

NO FURTHER ACTION WAS REQUIRED.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 100

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900920
TIR#: L3-A000111 01
INC CLASS: MINOR
ACTION-TAKEN: TIGHTENED
PART NAME: COUPLING
FCC: 0400
OPSHRS 238.3
PRODHRS 202.4
GENHRS 245.6

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UNA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MAHRS
CHA UNS	CREW	CREW	CREW	00:22	01:05
CHA UNS	GS	ORG	ORG	00:22	01:05
NON UNS	ORG	ORG		00:22	01:05

DESCRIPTION OF INCIDENT

REFRIGERANT LEAKAGE WAS DISCOVERED IN THE COMPRESSOR UNION LINE COUPLING.

FOLLOWING CYCLE #397, THE OPERATOR REPORTED A LOW REFRIGERATION GAUGE READING OF 17/115.

ON 09-21-90, 0735 (NST), WITH OPNRS 246:52, PRODHRS 208:18, GENHRS 252.3, CYCLES 408, AND 0 MILES, THE MRDEC REPRESENTATIVE VISUALLY INSPECTED THE SYSTEM.

THE STILL SERVICE LINES WERE DISCONNECTED, AND THE STILL MOUNTING BOLTS WERE REMOVED.

REFRIGERANT LEAKAGE WAS DISCOVERED IN THE COMPRESSOR UNION LINE COUPLING.

AN ATTEMPT WAS MADE AT TIGHTENING THE COUPLING WITH A PAIR OF CHANNEL LOCKS.

LEAKAGE CONTINUED TO EXIST AT THE COUPLING, THE COUPLING WAS LOOSENEED, AND WAS SEALED WITH JOINT SEALER.

THE UNION LINE COUPLING AND MOUNTING BRACKET WERE RETIGHTENED.

NO FURTHER LEAKAGE WAS DETECTED AT THIS TIME. THE DISCREPANCY WAS CORRECTED.

THE STILL SERVICE LINES WERE RECONNECTED, AND THE DUMP TANK THERMOSTAT WAS ADJUSTED TO 100 DEGREES F.

THE SYSTEM WAS PAUSED IN THE DRY CYCLE, AND WAS CHARGED WITH FREON 12. THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 101

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900925

TIRN: L5-A000112 01

INC CLASS: MINOR

ACTION-TAKEN: OPERATED

PART NAME: OPERATOR VALVE

FGC: 1100

OPSHRS 267.4

PRODHR 237.0

GENHRS 275.1

SCORING INFORMATIONSTEP
02- (C)CLASS
CCNACHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE
CHA UNSUSED PRESC RECON
CREN CREN CRENCLKHRS HANHRS
00:07 00:17

DESCRIPTION OF INCIDENT

NO SOLVENT WAS BEING PUMPED INTO THE WASH DRUM DURING WASH CYCLE.

DURING CYCLE #444 THE OPERATOR DISCOVERED THAT NO SOLVENT WAS BEING PUMPED INTO THE WASH BASKET. THE OPERATOR CHECKED THE PNEUMATIC VALVE (OPERATOR VALVE VAL-U-ACT3) AND FOUND IT TO BE CLOSED. THE OPERATOR ADVANCED THE CARD READER TO THE EXTRACT MODE, THE PNEUMATIC VALVE OPENED. THE EXTRACT MODE STOPPED & THE DRYING MODE STARTED, DURING THE DRY CYCLE THE PNEUMATIC VALVE CLOSED AFTER THE DUTY CYCLE STOPPED THE OPERATOR REMOVED THE CARD FROM THE READER. THE OPERATOR CHECKED THE BUTTON TRAP AND FOUND SOLVENT IN THE BUTTON TRAP. THE OPERATOR TRANSFERRED SOLVENT FROM THE WASH TANK TO THE DUMP TANK. AFTER THE SOLVENT WAS TRANSFERRED THE PNEUMATIC VALVE OPENED. THE OPERATOR STARTED THE NEXT CYCLE. NO FURTHER PROBLEMS WITH THE PNEUMATIC VALVE WERE ENCOUNTERED AND OPERATIONS CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 102

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BY IX LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 900925

TIRN: L5-A000113 01

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: BOLT

FCC: 1000

OPSHRS 267.2

PRODHR 236.4

GENHRS 274.1

SCORING INFORMATIONSTEP
01F (C)CLASS
NON-RANCHARGE
HARDWARE

MAINTENANCE INFORMATION

CHAR TYPE
CHA UNSUSED PRESC RECON
CREW CREW CREWACTIVE
CLKHRS HANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

BOLT MISSING

WHILE TAKING GAUGE READINGS DURING OPERATIONS OF THE LADDS, THE OPERATOR OBSERVED THAT THE BOLT THAT SECURES THE RIGHT REAR LEG OF THE BAG FILTER CANISTER TO THE TRAILER WAS MISSING.

NO CORRECTIVE ACTION WAS TAKEN AND THE REASON FOR THE BOLT BEING MISSING WAS UNDETERMINED.

THE POSSIBILITY EXISTS THAT THE BOLT WAS MISSING, PRIOR TO THE RECEIVING INSPECTION DUE TO THE PAINT NOT SHOWING SIGNS OF SCARRING FROM THE BOLT BEING TIGHTENED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900918

TIRN: L5-A000114 01

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: LADDS

FCC: 0000

OPSHRS 203.0

PRODHR 170.5

GENHRS 212.7

SCORING INFORMATIONSTEP
01F (C)CLASS
NON-RANCHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE
NON UNSUSED PRESC RECON
ORG ORG ORGACTIVE
CLKHRS HANHRS
00:00 00:00

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 103

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

DESCRIPTION OF INCIDENT

TOXIC FUME MEASUREMENTS SURROUNDING THE LAUNDRY AND DRYCLEANING/DECONTAMINATION UNIT (LADDS).

THE TEST WAS RUN WITH THE WASHING MACHINE STATIONARY IN THE PARKING LOT BEHIND BUILDING #2210. THE MACHINE WAS OPERATING FOR THE ENTIRE TEST RUNNING FROM POWER PROVIDED BY ITS OWN GENERATOR. THE MACHINE WAS LOCATED UNDER A SHADE THAT WAS DESIGNED SO AS NOT TO RESTRICT THE WIND OR TRAP THE FUMES PRODUCED BY THE MACHINE.

TOXIC FUMES LEVELS CONSISTING OF CARBON MONOXIDE (CO), OXIDES OF NITROGEN (NOx), AMMONIA (NH3), SULPHUR DIOXIDE (SO2) AND FREON 113 WERE MEASURED OUTSIDE THE MACHINE. CO IS ANALYZED WITH A THERMO-ELECTRON MODEL 48 IR ANALYZER (SENSITIVITY 0.1 PPM). NOx AND NH3 ARE ANALYZED WITH A THERMO-ELECTRON MODEL 44 CHEMILUMINESCENT NO-NOx ANALYZER (SENSITIVITY 0.01 PPM). SO2 IS ANALYZED WITH A THERMO-ELECTRON MODEL 40 PULSED FLUORESCENT SO2 ANALYZER (SENSITIVITY 0.10 PPM). FREON 113 IS ANALYZED WITH A MICRONOMITOR UNIVERSAL GAS ANALYZER MODEL N500 WHICH USES THE PRINCIPLE OF MINIATURE GAS CHROMATOGRAPHY. ALL ANALYZERS AND DATA RECORDERS ARE CHECKED AND CALIBRATED AT THE TEST SITE BEFORE THE TEST. THE CO, NOx, NH3 AND SO2 ARE CALIBRATED USING CERTIFIED SPAN GAS FROM AIRCO RARE AND SPECIALTY GASES. THE FREON 113 IS CALIBRATED BY MIXING A KNOWN AMOUNT OF THE FREON 113 IN A CLOSED CONTAINER AND USING THIS MIXTURE TO CALIBRATE THE ANALYZER. FOR THE FREON 113 THE ANALYZER WAS CALIBRATED AT 1000 PPM AND ITS LINEARITY CHECKED AT 250 PPM. ALL VALUES ABOVE 1000 PPM IN THE DATA ARE EXTRAPOLATED VALUES. THE DATA IS RECORDED DIGITALLY ON AN IBM PORTABLE DATA LOGGER EQUIPPED WITH AN ANALOG TO DIGITAL CONVERTER CARD. THE ANALYZERS ARE LOCATED INSIDE A MOBILE VAN AND ARE CONNECTED TO THE VEHICLE BY MEANS OF 3/8" TEFLON TUBING TO BRING THE AIR TO THE ANALYZERS.

A SAMPLE WAS TAKEN AND ANALYZED ONCE EVERY 60 SECONDS. THIS ALLOWED TIME FOR THE LINES RUNNING FROM THE MACHINE TO THE ANALYZERS TO BE PURGED WITH THE AIR FROM EACH NEW SAMPLING LOCATION. THE SAMPLING LINE WAS HELD BY THE PROJECT ENGINEER WHO MOVED IT ONCE EACH 60 SECONDS TO A NEW SAMPLING LOCATION. THE POSITIONS OF EACH OF THESE SAMPLING LOCATIONS WAS RECORDED BY THE PROJECT ENGINEER. IN THE ATTACHED DATA EACH RECORDED READING TAKEN 60 SECONDS APART REPRESENTS A SEPARATE SAMPLE AND LOCATION WITH ITS LOCATION IN REFERENCE TO THE MACHINE ENGINEERS REPORT.

TOXIC FUMES DATA

VEHICLE TYPE	LADDS
VEHICLE NO.	PROTO1
PROJECT ENGINEER	SARGENT
P.E. CYCLE NO.	1

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SUPPORTABILITY ANALYSIS CHART

PAGE: 104

PROJECT NUMBER
0-ES-119-LAB-003

PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

LAB. FILE NO. 4135.T02
DATE OF TEST 18 SEP 90
TIME OF TEST 08:27:32

CONFIGURATION

WORK EFFORT 3
ENGINE ON
HEATER N/A
MATCHES N/A
VENTS/KBC N/A
APU ON
VEHICLE MOVEMENT STATIC

ABBREVIATIONS

CO ■ CARBON MONOXIDE
NOx ■ OXIDES OF NITROGEN
NH3 ■ AMMONIA
SO2 ■ SULPHUR DIOXIDE
COHB ■ CARBOXYHEMOGLOBIN
MIN ■ MINUTES
% ■ PERCENT
PPM ■ PARTS PER MILLION
TWA ■ TIME WEIGHTED AVERAGE
APU ■ AUXILIARY POWER UNIT
LOF ■ LINE OF FIRE

NOTES

VALUES REPORTED AS ZERO ARE ACTUALLY VALUES BELOW THE
READABILITY OF THE ANALYZER.
SEE REPORT FOR THESE VALUES.

THE NUMBERS IN PARENTHESES REPRESENT THE LOCATION FROM WHICH THE
SAMPLES WERE OBTAINED. THE FOLLOWING LIST DESCRIBES THE LOCATION AND
OPERATING DURING THE SAMPLE.

LOCATION NUMBER 1: BAG FILTER AREA, AND PIPING ASSOCIATED WITH THE BAG
FILTER SYSTEM

LOCATION NUMBER 2: WASH BASKET DOOR FOLLOWING COMPLETION OF WASH CYCLE

LOCATION NUMBER 3: BOTTOM TRAP ACCESS DOOR IN THE OPEN POSITION

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SUPPORTABILITY ANALYSIS CHART

PAGE: 105

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

- LOCATION NUMBER 4: LINT FILTER ACCESS DOOR IN THE OPEN POSITION
- LOCATION NUMBER 5: JOINT AT ELBOW OF DRYER SYSTEM BLOWER VENTS
- LOCATION NUMBER 6: TUB FILLER PIPE CONNECTION AT TUB
- LOCATION NUMBER 7: STILL BOTTOM (OPERATING)
- LOCATION NUMBER 8: TOP OF STILL (OPERATING)
- LOCATION NUMBER 9: SOLVENT TANKS SIGHT GLASSES, PIPING CONNECTIONS AND JOINTS
- LOCATION NUMBER 10: HEPA FILTER VENTING DURING WASH AND DRY CYCLES
- LOCATION NUMBER 11: ON TOP OF LAUNDRY UNIT OVER STILL AND CONDENSER AREA
- LOCATION NUMBER 12: ON TOP OF UNIT ABOVE DRYER SYSTEM HEATER AND FREON COMPRESSOR
- LOCATION NUMBER 13: HEPA FILTER VENTING DURING DRYING OPERATIONS
- LOCATION NUMBER 14: TUB DOOR OPEN IMMEDIATELY FOLLOWING COMPLETION OF DRYING CYCLE PRIOR TO REMOVAL OF LAUNDRY ITEMS

TIME HR:MIN:SEC	CO PPH	FREON PPH	SO2 PPH	NOx PPH	NH3 PPH
8:28:18 (1)	0.0	0	0.0	0.0	0.0
8:29:18 (1)	0.0	58	0.0	0.0	0.0
8:30:18 (1)	0.0	37	0.0	0.0	0.0
8:31:18 (1)	0.0	34	0.0	0.0	0.0
8:35:18 (2)	33.0	27340	0.0	0.4	0.0
9:50:19 (2)	1.0	20760	0.0	0.1	0.0
8:36:18 (3)	0.3	1360	0.0	0.2	0.0
8:37:18 (4)	0.0	714	0.0	0.3	0.0
8:38:18 (5)	10.9	946	0.0	0.3	0.0
8:39:18 (6)	4.7	7440	0.0	0.3	0.0
8:40:18 (6)	0.6	7340	0.0	0.2	0.0
8:41:18 (7)	0.0	227	0.0	0.2	0.0
8:42:18 (7)	0.0	147	0.0	0.2	0.0
8:43:18 (8)	0.0	213	0.0	0.2	0.0
8:57:18 (9)	0.4	936	0.0	0.1	0.0
8:58:18 (9)	0.2	1040	0.0	0.1	0.0

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SUPPORTABILITY ANALYSIS CHART

PAGE: 106

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANERITEM ID
LAD001

8:59:18 (9)	0.0	316	0.0	0.1	0.0
9:00:18 (9)	0.1	435	0.0	0.1	0.0
9:01:18 (9)	0.1	1320	0.0	0.1	0.0
9:02:18 (9)	0.0	547	0.0	0.1	0.0
9:06:18 (11)	0.2	44	0.0	0.1	0.0
9:07:18 (11)	0.5	3040	0.0	0.1	0.0
9:08:18 (10)	0.9	14650	0.0	0.1	0.0
9:09:18 (11)	0.9	5640	0.0	0.1	0.0
9:10:18	0.2	325	0.0	0.1	0.0
9:11:18 (12)	0.4	697	0.0	0.1	0.0
9:12:18 (11)	0.5	1530	0.0	0.1	0.0
9:13:18 (11)	0.3	7540	0.0	0.1	0.0
9:18:18 (12)	0.0	245	0.0	0.1	0.0
10:32:18 (13)	0.5	14530	0.0	0.0	0.0
9:53:18 (2) (14)	4.3	97720	0.0	0.1	0.0

THE SYSTEM HAS OPERATED FOR A FULL CYCLE WITH THE PROBES LOCATED AT THE VENT FROM THE HEPA FILTER FOR A PERIOD OF 32 MINUTES TO RECORD THE EMISSIONS FROM THE VENT. THE DATA FOLLOWS IN 1 MINUTE TIME SLACKS:

TIME HR:MIN:SEC	CO PPM	FREON PPM	SO2 PPM	NOx PPM	NH3 PPM
9:57:18	0.3	274	0.0	0.1	0.0
9:58:18	0.0	403	0.0	0.1	0.0
9:59:18	0.0	241	0.0	0.1	0.0
10:00:18	0.0	35	0.0	0.1	0.0
10:01:18	0.0	32	0.0	0.0	0.0
10:02:18	0.0	41	0.0	0.0	0.0
10:03:18	0.0	57	0.0	0.0	0.0
10:04:18	0.0	69	0.0	0.1	0.0
10:05:18	0.0	264	0.0	0.0	0.0
10:06:18	0.0	0	0.0	0.0	0.0
10:07:18	0.0	0	0.0	0.0	0.0
10:08:18	0.0	323	0.0	0.0	0.0
10:09:18	3.5	31200	0.0	0.1	0.0
10:10:18	0.0	192	0.0	0.1	0.0
10:11:18	0.0	51	0.0	0.1	0.0
10:12:18	0.0	113	0.0	0.1	0.0
10:13:18	0.0	60	0.0	0.0	0.0
10:14:18	0.0	0	0.0	0.0	0.0
10:15:18	0.0	44	0.0	0.0	0.0
10:16:18	0.0	59	0.0	0.0	0.0
10:17:18	0.0	60	0.0	0.0	0.0

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
0-ES-115-LAD-003

PROJECT NAME
BY II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

10:18:18	0.0	23	0.0	0.0	0.0
10:19:18	0.0	0	0.0	0.0	0.0
10:20:18	0.0	0	0.0	0.0	0.0
10:21:18	0.0	40	0.0	0.0	0.0
10:22:18	0.0	44	0.0	0.0	0.0
10:23:18	0.0	0	0.0	0.0	0.0
10:24:18	0.0	45	0.0	0.0	0.0
10:25:18	0.0	41	0.0	0.0	0.0
10:26:18	0.0	86	0.0	0.0	0.0
10:27:18	0.0	32	0.0	0.0	0.0
10:28:18	0.0	37	0.0	0.0	0.0
10:29:18	0.3	33	0.0	0.0	0.0

A SAMPLE WAS TAKEN FROM THE BUNG OF AN OPENED DRUM OF FREON, FROM A BASTE DRUM WITH A BUNG PLUG INSTALLED, AND FROM A DRUM THAT HAD NOT BEEN PREVIOUSLY OPENED. THE FOLLOWING DATA OBTAINED:

BUNG OPENING
7640 PPM

WITH BUNG REINSTALLED
832 PPM

UNOPENED DRUM
0 PPM

READINGS WERE TAKEN FROM 22 LOCATIONS AROUND THE OPERATING LADDS RANGING FROM A DISTANCE OF TWO FEET TO EIGHT FEET. THE MEAN CONCENTRATIONS OF FREON IN PARTS PER MILLION OVER ALL LOCATIONS WAS 43 PARTS PER MILLION. THE READINGS RANGED FROM 0 PPM AT THE FRONT OF THE TEST ITEM TO 7540 AT THE SOLVENT TANK WITH THE SYSTEM VENTING. THOSE CONCENTRATIONS AT THE SOLVENT TANK AREA COULD PRODUCE NAUSEA AND DIZZINESS IF THE EXPOSURE PERIODS WERE SUFFICIENTLY LONG; HOWEVER, ALL OPERATORS ARE AWARE OF THE INTENSE CONCENTRATIONS IN THIS AREA AND AVOID UNDUE EXPOSURE TIMES.

THE CONCENTRATIONS AT THE DOOR EXCEEDED 97720 PPM DURING INITIAL DOOR OPENING, BUT VERY QUICKLY DISSIPATE AND POSE NO HAZARD TO THE TRAINED OPERATOR. IF THE LADDS WAS OPERATED IN A CONFINED AREA WITHOUT PROPER VENTILATION, THE CONCENTRATIONS PRODUCED BY THE NEPH FILTER VENT COULD BECOME HAZARDOUS TO THE HUMAN OPERATOR. BASED UPON THE MEASUREMENTS OBTAINED DURING THIS TEST, THE LADDS POSES NO UNDUE HEALTH HAZARD TO THE TRAINED OPERATOR.

THE CONCENTRATIONS OF THE BYPRODUCTS OF COMBUSTION OF FOSSIL FUELS WERE OF VERY LOW CONCENTRATIONS AND POSE NO THREAT TO SOLDIERS OPERATING

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAB001

THE LADDS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900925

TIRB: LS-A000115 02

INC CLASS: MINOR

ACTION-TAKEN: REPAIRED

PART NAME: ELBOW, REFRIGERATION LI

FCC: 0400

OPMRS 268.3

PROGMR 237.4

GENMRS 275.8

SCORING INFORMATION

STEP
03- (C)

CLASS
OIT/UHA

CHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE
CHA UMS

USED PRESC RECON
ORG ORG ORG

ACTIVE
CLKMRS HAMMRS
04:33 04:44

DESCRIPTION OF INCIDENT

FREON 12 LEAKING FROM REFRIGERATION SUCTION LINE ELBOW.

DURING OPERATIONS THE OPERATOR OBSERVED A PUDDLE OF FLUID UNDER THE DRYER REFRIGERATION UNIT.

FURTHER INVESTIGATION REVEALED THAT THE REFRIGERATION SUCTION LINE ELBOW THAT HAS RECENTLY WELDED ON 09/20/90, HAS AGAIN LEAKING FREON 12.

THE PROJECT ENGINEER INVESTIGATED THE LEAK AND CLASSIFIED IT AS A CLASS III LEAK. A DECISION WAS MADE BY THE PROJECT ENGINEER TO SHUT DOWN THE SYSTEM.

REPAIRS WILL BE MADE ON 09/26/90.

ON 09/26/90, AT 0925 (HST), WITH THE OPMRS 268:42, PROGMR 237:45, GENMRS 276.0, CYCLES 444, AND 13.6 HILES, THE MAINTENANCE PERSONNEL VISUALLY INSPECTED THE REFRIGERATION SYSTEM AND CONFIRMED THE LEAKAGE IN THE SUCTION LINE ELBOW.

THE SUCTION LINE INSULATION WAS REMOVED TO GAIN ACCESS TO THE CRACKED AREA.

NO FURTHER ACTION WAS TAKEN AT THIS TIME, DUE TO THE UNAVAILABILITY OF PROPER PARTS.

ON 09/27/90, AT 0634 (HST), WITH THE OPMRS 270:45, PROGMR 238:31, GENMRS 278.1, CYCLES 445, AND 13.6 HILES, THE MAINTENANCE PERSONNEL REMOVED THE STILL MOUNTING BOLTS AND DISCONNECTED THE STILL FLOW LINES.

THE STILL WAS MOVED TO ONE SIDE, WITH A FORK LIFT, TO GAIN ACCESS TO

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
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PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

THE SUCTION LINE.

THE UNION SUCTION LINE WAS DISCONNECTED TO VENT THE SYSTEM, AND THE REMAINDER OF THE SUCTION LINE WAS REMOVED.

THE DAMAGED AREA OF THE SUCTION LINE WAS CUT FROM THE UNIT WITH A PAIR OF PIPE CUTTERS.

THE COMPRESSOR OUTLET LINE WAS DISCONNECTED TO GAIN ACCESS TO THE REMAINDER OF THE SUCTION LINE, AND THE DAMAGE WAS VISUALLY INSPECTED.

AN ATTEMPT WAS MADE AT SOLDERING THE CRACKED ELBOW, AND WAS UNSUCCESSFUL.

THE NEW SECTION OF 1 1/8 INCH OD COPPER PIPING, AND THE NEW ELBOW (P/N UNKNOWN), WAS ASSEMBLED. A VIBRATION ELIMINATOR (P/N UNKNOWN) WAS INSTALLED ON THE NEW SECTION OF THE LINE TO ELIMINATE STRESS ON THE LINE.

THE NEW SECTION OF THE LINE WAS INSTALLED, AND THE SUCTION LINE UNION WAS RECONNECTED.

THE REFRIGERATION SYSTEM WAS EVACUATED, AND WAS INSPECTED FOR LEAKAGE WITH A LEAKTEC DEVICE. LEAKAGE WAS DETECTED AT THE NEW SUCTION LINE JOINTS. ANOTHER FOUR ATTEMPTS WERE MADE AT CORRECTING THE LEAKAGE BY EVACUATING THE SYSTEM AND SOLDERING THE SUCTION LINE JOINTS. THE FOURTH ATTEMPT WAS SUCCESSFUL, AND NO FURTHER LEAKAGE COULD BE DETECTED.

THE STILL WAS RETURNED TO THE PROPER POSITION WITH A FORKLIFT, AND THE STILL MOUNTING BOLTS WERE REINSTALLED.

THE STILL FLOW LINES WERE RECONNECTED, AND THE SYSTEM WAS INSPECTED FOR FURTHER LEAKAGE WITH THE DRY CYCLE IN "PAUSE" MODE. NO LEAKAGE WAS DISCOVERED.

THE REFRIGERATION SYSTEM WAS CHARGED WITH FREON 12 AND THE REINSTALLATION OF THE STILL MOUNTING BOLTS WAS COMPLETED.

THE DISCREPANCY WAS CORRECTED, AND THE OPERATIONS WERE CONTINUED.

REVISION #1 DATE 11/16/90 HILES 13.6 HOURS 268.28 TIME 1400 HST
TO CORRECT DATA:

BLOCK#	FROM	TO
57	NO ACTION TAKEN	REPAIRED
63	34.43 OPSHRS 268.42	368.28 OPSHRS 268.42
64	30.32 PRODHR 237.45	237.41 PRODHR 237.45
65	37.30 GEMHRS 276.00	275.80 GEMHR 276.00

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 110

PROJECT NUMBER
0-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 900928

TIRN: L5-A000116 01

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: UPPER BAG FILTER GAUGE

FCC: 1000

OPSHRS 272.3

PRODNR 239.0

GENHRS 180.5

SCORING INFORMATION

STEP

CLASS

CHARGE

04U (C)

UMA

HARDWARE

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE

USED PRESC RECON

CLKHRS HANHRS

CNA UMS

CREN CREN CREN

00:06 00:06

DESCRIPTION OF INCIDENT

THE UPPER BAG FILTER PRESSURE GAUGE WAS INDICATING A LOW PRESSURE.

THE UPPER PRESSURE GAUGE ON THE BAG FILTER ASSEMBLY DOES NOT APPEAR TO BE WORKING TO DEP-10-3510-221-14 SPECIFICATIONS. DURING THE WASH CYCLE THE PRESSURE GAUGE READINGS WERE 8 PSI, UPPER GAUGE AND 20 PSI, LOWER GAUGE. THE UPPER PRESSURE SHOULD BE EQUAL TO OR HIGHER THAN THE LOWER PRESSURE GAUGE. NO MAINTENANCE ACTION WAS TAKEN.

THE OPERATOR OBSERVED THAT DURING THE RINSE CYCLE, THE UPPER PRESSURE GAUGE WAS INDICATING 20 PSI AND LOWER PRESSURE GAUGE WAS STILL INDICATING 20 PSI. THE CAUSE OF THIS INCIDENT WAS NOT DETERMINED AND DID NOT REOCCUR.

REVISION 02/06/91 - SCORING CONFERENCE.

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PROJECT NUMBER
8-ES-113-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD001

 INC-DATE: 900922
 TIRN: L3-A000117 01
 INC CLASS: INFORMATION
 ACTION-TAKEN: WELDED
 PART NAME: TRAILER
 FGC: 1700
 OPSHRS 261.2
 PRODHRS 231.3
 GENHRS 267.0

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAM	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	NAMHRS
NON UNS	CREW	CREW	CREW	04:32	08:12
NON UNS	GS	ORG	ORG	00:46	01:29
NON UNS	ORG	ORG	ORG	03:50	04:40

DESCRIPTION OF INCIDENT

TRAILER CRACKS.

22 SEPT 1990, 0920 NST (OPHRS 261:17; PRODHRS 231:28; GENHRS 267.0)
 DURING A B-PRCS, THE MAINTENANCE PERSONNEL DISCOVERED A SIX INCH CRACK
 IN THE LEFT REAR CORNER OF THE TRAILER BED. THIS CRACK WAS EXTENDING OUT
 FROM UNDER THE NBC ABSORBER. AN INVESTIGATION OF THE CRACK WAS DELAYED DUE
 TO MAINTENANCE PERSONNEL TROUBLESHOOTING ANOTHER INCIDENT.

AT 1316 NST, THE MRDEC REPRESENTATIVE AND ORGANIZATIONAL MAINTENANCE
 PERSONNEL BEGAN TO REMOVE THE NBC ABSORBER, TO ALLOW FOR A CLOSER INSPECTION
 OF THE CRACK IN THE TRAILER BED. THE UPPER AND LOWER ABSORBER RETAINING
 COLLARS, AND FOUR BOLTS WERE REMOVED. THE LOWER CLAMP THAT CONNECTS A 2.5
 INCH HOSE TO THE NBC ABSORBER WAS REMOVED. THE TWO REMAINING CLAMPS, ONE AT
 THE ABSORBER OUTLET PORT, AND THE OTHER AT THE WASH DRUM INLET PORT WAS
 REMOVED. THE NBC ABSORBER WAS REMOVED FROM THE TRAILER.

AN INVESTIGATION OF THE AREA DIRECTLY BELOW THE ABSORBER REVEALED FOUR
 CRACKS. THE CRACKS WERE 3", 5", 6" AND 9" AND WERE LOCATED IN AN APPROXI-
 MATE AREA OF ONE SQUARE FOOT. FURTHER INVESTIGATION REVEALED THAT THE LEFT
 FRONT WELD OF THE SUPPORT EXTENSION MOUNTING BRACKET WAS CRACKED. THIS LEG
 EXTENSION HOLDS THE WEIGHT OF THE LEFT REAR CORNER OF THE TRAILER.

THE MRDEC REPRESENTATIVE DETERMINED THAT THE CRACKS COULD BE REPAIRED
 AND A ONE QUARTER INCH STEEL PLATE BE WELDED OVER THE CRACK STRENGTHENING
 THE LEFT REAR CORNER.

24 SEPT 1990, 0732 NST (OPHRS 261:17; PRODHRS 231:28; GENHRS 267.0)
 THE OPERATORS DRAINED ALL THE TANKS AND THE STILL IN PREPARATION FOR

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

REPAIRS. THE TRAILER AND LADDS WAS TOWED 13.6 MILES TO STEAM CLEAN THE SYSTEM, AND TRAILER IN ORDER TO CHECK FOR ANY OTHER CRACKS.

THE LADDS WAS PARKED AT THE WELDING SHOP. THE WELDER INSPECTED THE DAMAGE AND DETERMINED THAT THE CRACKED WELD, OF THE LEG EXTENSION BRACKET WAS THE PROBABLE CAUSE OF THE CRACKS IN THE TRAILER BED.

THE NOSE ASSEMBLY WAS REINFORCED FOR BETTER ACCESS TO WELD THE TRAILER BED. THIS WAS ACCOMPLISHED BY REMOVING ONE CLAMP TO THE LEFT, AT THE BASE OF THE NBC ABSORBER AND TWO PNEUMATIC LINES CONNECTED TO THE SHUTOFF VALVE.

25 SEPT 1990, 0640 NST (OPHRS 261:17; PRODHRS 231:28; GENHRS 267.0)

THE WELD ON THE SUPPORT EXTENSION MOUNTING BRACKET AND THE CRACKS ON THE TRAILER BED WAS REPAIRED. A QUARTER INCH PIECE OF STEEL APPROXIMATELY NINETEEN INCHES SQUARE, WAS WELDED OVER THE REPAIRED CRACKS FOR EXTRA SUPPORT. THIS ACTION WAS REQUESTED BY THE MRDEC REPRESENTATIVE.

THE LADDS WAS THEN TRANSPORTED TO THE LAUNDRY SITE AND PARKED. THE SYSTEM WAS SERVICED WITH SOLVENT. THE GENERATOR GROUNDING ROD WAS DRIVEN INTO THE GROUND, AND THE GROUND STRAP ATTACHED.

THE NBC ABSORBER WAS REINSTALLED AND SECURED WITH THE TWO RETAINING COLLARS. THE NOSE ASSEMBLY WAS REINSTALLED AND CONNECTED WITH THE FOUR NOSE CLAMPS. THE TWO PNEUMATIC LINES WERE RECONNECTED.

A B-PMCS WAS CONDUCTED AND THE FIRST WASH CYCLE OF THE DAY WAS CONDUCTED WITH NO FURTHER INCIDENTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900927

TIRN: L5-A000118 01

INC CLASS: MINOR

ACTION-TAKEN: INSPECTED

PART NAME: CIRCUIT BREAKER AZL-6

FCC: 0200

OPSHRS 271.3

PRODHRS 238.3

GENHRS 279.8

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
CHA UMS	CREN	CREN	CREN	00:04	00:04
CHA UMS	ORG	ORG	ORG	00:36	00:42

DESCRIPTION OF INCIDENT

THE STILL IS NOT OPERATING.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

AT THE END OF CYCLE #446, THE OPERATOR OBSERVED THE STILL NOT WORKING. THE STILL READY LIGHT WAS OUT ON THE MAIN CONTROL PANEL AND THE STILL CONTROL PANEL. THE MAINTENANCE PERSONNEL CHECKED THE CIRCUIT BREAKERS OF BOTH CONTROL PANELS. NO DISCREPANCY WAS OBSERVED.

THE STILL AND THE DUMP TANK WAS COMPLETELY FILLED. THE SOLVENT WAS DRAINED FROM THE STILL AND PUMPED INTO THE RINSE TANK. THE TRANSFER OF SOLVENT DID NOT CAUSE THE STILL TO OPERATE. NO FURTHER ACTION WAS TAKEN.

28 SEP 1990, 645 HST (OPHRS 272:27/PRODHRS 239:01/GENHRS 280.5)

THE MAINTENANCE PERSONNEL CONDUCTED TROUBLESHOOTING PROCEDURES, IAN DEP 10-3510-221-14 ON THE STILL ELECTRICAL CONTROL PANEL. MAINTENANCE PERSONNEL DISCOVERED THAT CIRCUIT BREAKER #42L-6 WAS DE-ENERGIZED. THE OPERATOR RESET THE CIRCUIT BREAKER. THE SYSTEM WAS OPERATED WITH NO FURTHER DISCREPANCIES.

THE DEP 10-3510-221-14 DOES NOT TELL THE MAINTENANCE PERSONNEL WHAT POSITION THESE SWITCHES ARE SUPPOSE TO BE IN. THERE IS NO FIGURE IN THE MANUAL THAT SHOW THESE SWITCHES.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900928

TIRN: L5-A000119 01

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: REFRIGERATION UNIT IMO

FGC: 0400

OPSHRS 274.3

PRODHR 239.5

GENHRS 282.5

SCORING INFORMATION

STEP	CLASS	CHARGE
02- (C)	CCNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CREW	CREW	CREW	CLKHRS 00:42 MANHRS 00:42

DESCRIPTION OF INCIDENT

THE REFRIGERATION UNIT DOES NOT APPEAR TO BE OPERATING.

DURING THE OPERATION OF CYCLE #448 THE OPERATOR DISCOVERED THE REFRIGERATION UNIT FOR THE DRYER WAS INDICATING 8 PSI OVER 110 PSI. NO MAINTENANCE ACTION WAS TAKEN. THE OPERATOR TURNED THE DRY HEATER ON IN ORDER TO DRY THE BDUS AND CONTINUED TO OPERATE WHILE OBSERVING THE REFRIGERATION UNIT PRESSURE READINGS. THE PRESSURE INDICATIONS STAYED THE SAME DURING THE NEXT 2 CYCLES.

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8-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITER ID
LADD01

DURING CYCLE #450, THE OPERATOR OBSERVED THE REFRIGERATION PRESSURE RISE TO 20 PSI OVER 220 PSI, INDICATING THAT THE REFRIGERATION DRYING UNIT WAS WORKING PROPERLY. NO FURTHER ACTION WAS TAKEN.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 900928

TIR#: L3-A000120 02

INC CLASS: MAJOR

ACTION-TAKEN: REPAIRED

PART NAME: ELECTRICAL CIRCUIT PAN

FCC: 0900

OPSHRS 275.2

PRODHR 231.4

GENHRS 284.4

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	CLOCKRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:03	00:03	
CHA UMS	ORG	ORG	ORG	03:22	03:22	

DESCRIPTION OF INCIDENT

THE P0103 PNEUMATIC VALVE WAS DISCOVERED TO BE INOPERATIVE.

PRIOR TO THE WASH CYCLE, DURING CYCLE #452, THE OPERATOR DISCOVERED THAT THE P0103 PNEUMATIC VALVE COULD NOT BE ACTIVATED BY DEPRESSING THE MANUAL OVERRIDE SWITCH. FOUR ATTEMPTS TO ACTIVATE THE VALVE WERE MADE, UNSUCCESSFULLY. THE CAUSE OF THE DISCREPANCY WAS UNKNOWN.

THE SYSTEM WAS SHUT DOWN, PENDING FURTHER INSTRUCTION FROM THE PROJECT ENGINEER.

ON 16-01-90, WITH THE TEST LIFE FIGURES REMAINING UNCHANGED, THE OPERATOR OBSERVED THAT THE VALVE REMAINED INOPERATIVE.

THE MAINTENANCE PERSONNEL BEGAN TROUBLESHOOTING THE ELECTRICAL PANEL, AND DISCOVERED THAT THE MP60 (AIR COMPRESSOR) BREAKER HAD BEEN DEACTIVATED. THE CAUSE REMAINED UNDETERMINED.

THE BREAKER WAS RESET, AND A TRIAL CYCLE WAS PERFORMED WITH THE ELECTRICAL PANEL DOOR REMAINING OPEN FOR OBSERVATION. A VOLTMETER WAS USED FOR TROUBLESHOOTING PURPOSES, AND THE POWER READINGS WERE IN THE MAINTENANCE MANUAL SCHEMATICS.

THE WASH/EXTRACT AND THE RINSE/EXTRACT MODES WERE PERFORMED, AS PART OF THE TROUBLESHOOTING, AND THE VALVE FUNCTIONED PROPERLY. CYCLE #452 WAS PERFORMED COMPLETELY, AND THE VALVE REMAINED FUNCTIONAL.

AN ATTEMPT AT NORMAL OPERATIONS WAS MADE, AND PRIOR TO THE CYCLE #454

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WASH CYCLE, THE OPERATOR OBSERVED THAT THE PU103 VALVE WAS INOPERATIVE. THE AIR COMPRESSOR GAUGE DISPLAYED 0 POUNDS PER SQUARE INCH, AND ALL ELECTRICAL PANEL CIRCUIT BREAKERS REMAINED ACTIVATED. TROUBLESHOOTING WAS PERFORMED ON THE ELECTRICAL PANEL WITH A VOLTMETER, AND THE CAUSE REMAINED UNDETERMINED.

THE SYSTEM WAS SHUT DOWN, AS PER THE PROJECT ENGINEER.

THE MAINTENANCE WAS DEFERRED, PENDING FURTHER INSTRUCTION FROM THE M. R. D. E. C. REPRESENTATIVE.

TROUBLESHOOTING PROCEDURES WERE PERFORMED IN VERBAL (PHONE) INSTRUCTIONS FROM THE M. R. D. E. C. REPRESENTATIVE.

ON 10-02-90, AT 0714 (NST), WITH THE OPHRS 277:49, PRODHRS 232:53, GEMHRS 287.0, CYCLES 453, AND 13.6 NILES, THE MAINTENANCE PERSONNEL INSPECTED THE PNEUMATIC PUMP AIR LINES FOR CRACKS OR HOLES CAUSING AIR LEAKAGE.

THE PNEUMATIC PUMP COVER PLATE AND THE TERMINAL COVER WERE REMOVED TO FURTHER INSPECT THE PNEUMATIC PUMP. THE PUMP WAS DISCOVERED TO NOT BE BUILDING THE PROPER AIR PRESSURE.

THE MULTIMETER DISPLAYED 206 VOLTS AC ON ALL THREE OF THE PRESSURE SWITCH WIRES. AT THIS TIME, THE MAINTENANCE PERSONNEL REPORTED THE PUMP, ITSELF, TO BE INOPERATIVE.

THE PUMP COVER PLATES WERE REINSTALLED.

M. R. D. E. C. WAS NOTIFIED BY TELEPHONE, AND FURTHER MAINTENANCE WAS DEFERRED PENDING THE ARRIVAL OF THE REQUIRED REPLACEMENT PARTS.

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ON 10-03-90, AT 0614 (NST), WITH THE OPHRS 277:50, PRODHRS 232:53, GEMHRS 287.1, CYCLES 453, AND 13.6 NILES, THE MAINTENANCE PERSONNEL REMOVED THE OLD PNEUMATIC PUMP, MOUNTING BOLTS.

THE PUMP AIR LINES WERE DISCONNECTED, AND THE TERMINAL COVER WAS REMOVED.

THE PUMP COVER PLATE WAS REMOVED, AND THE PUMP WIRING WAS DISCONNECTED.

THE OLD PNEUMATIC PUMP (MODEL #GH-310, ID #260253P-0884) WAS REMOVED, AND THE NEW PUMP (MODEL #GH-310, ID #260255P) WAS INSTALLED.

THE ORIGINAL AIR LINES WERE REINSTALLED, AND THE WIRING WAS RECONNECTED.

THE PUMP COVER PLATE AND THE MOUNTING BOLTS WERE REINSTALLED.

THE SYSTEM WAS INITIALIZED AND THE NEW PUMP WAS INSPECTED.

THE PUMP FAILED TO FUNCTION, AND TROUBLESHOOTING ON THE ELECTRICAL PANEL WIRING WAS PERFORMED.

WIRE #7 WAS DISCOVERED TO HAVE BROKEN AT THE END OPPOSITE THE TERMINAL BOARD. THE CAUSE WAS UNDETERMINED.

M. R. D. E. C. WAS NOTIFIED BY TELEPHONE TO DETERMINE THE PROPER LOCATION AT WHICH TO CONNECT THE BROKEN WIRE.

M. R. D. E. C. DETERMINED THAT WIRE #7 CONNECTED WITH WIRE #3 AT THE

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LEFT SIDE OF THE TERMINAL BOARD.

THE SYSTEM WAS INITIALIZED TO INSPECT FOR FURTHER DISCREPANCIES. THE SYSTEM FUNCTIONED PROPERLY, AND NO FURTHER DISCREPANCIES WERE OBSERVED.

THE SYSTEM WAS POWERED DOWN, AND THE PNEUMATIC PUMP MOUNTING BOLTS WERE REMOVED TO REINSTALL THE OLD PUMP.

THE OLD PUMP WAS FOUND TO BE FUNCTIONAL, THEREFORE, THE NEW PUMP WAS NOT NEEDED.

THE PUMP AIR LINE WAS REMOVED, AND THE PUMP WIRING WAS DISCONNECTED.

THE NEW PUMP WAS REMOVED, AND THE OLD PUMP WAS REINSTALLED.

THE WIRING AND THE TERMINAL COVER WERE REINSTALLED.

THE AIR LINE AND THE MOUNTING BOLTS WERE REINSTALLED.

THE SYSTEM WAS INITIALIZED, AND THE OLD PUMP WAS INSPECTED.

NO DISCREPANCIES WERE OBSERVED, AND THE NEW PUMP WAS STORED IN THE SSP BOX.

NO FURTHER ACTION WAS TAKEN, AND THE OPERATIONS WERE CONTINUED.

BLOCK#	FROM	TO
22	239.44	231.43
30	PV103 VALVE IMOPERATIVE	BROKEN ELECTRICAL WIRE
35	DEFERRED MAINT	MAINTAINED
50	VALVE, PV103	ELECTRICAL CIRCUIT PANEL
51	E16156	UNKNOWN
54	979-899	UNKNOWN
57	TROUBLESHOOTING	REPAIRED
60	1100	0900
63	275.18 OPSHRS 0.00	275.18 OPSHRS 277.50
64	239.44 PRODHRS 0.00	231.43 PRODHRS 232.55
65	284.40 GENHRS 0.00	284.40 GENHRS 287.1
90	AS WAS	ADD NEW MARR.
MAINT BREAKDOWN	AS WAS	ADD NEW BREAKDOWN

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BT II LABDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 901003

TIRB: L3-A000121 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: REFRIGERATION UNIT

FCC:

OPSHRS 281.0

PRODMR 234.0

GENHRS 289.0

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	HAMHRS
CHA UNS	CREN	CREN	CREN	00:04	00:04
CHA UNS	ORG	ORG	ORG	00:36	00:36

DESCRIPTION OF INCIDENT

THE REFRIGERATION PRESSURE FELL.

DURING THE OPERATION OF CYCLE #455 THE OPERATOR DISCOVERED THE REFRIGERATION UNIT FOR THE DRYER WAS INDICATING 11 PSI OVER 95 PSI. NO MAINTENANCE ACTION WAS TAKEN. THE OPERATOR CONTINUED OPERATIONS UTILIZING THE DRY HEATER. THE REFRIGERATION UNIT WAS INSPECTED DURING THE DRY PHASE OF THE NEXT THREE CYCLES.

ORGANIZATIONAL MAINTENANCE PERSONNEL INSPECTED THE REFRIGERATION SYSTEM WHILE OPERATIONS WERE PAUSED IN THE DRY PHASE. A LEAK DETECTOR WAS USED BY MAINTENANCE PERSONNEL TO TROUBLESHOOT THE REFRIGERATION SYSTEM. THE LEAK WAS NOT LOCATED. MAINTENANCE PERSONNEL SERVICED THE UNIT WITH FREON 12 CORRECTING THE LOW PRESSURE DROP. THE CAUSE OF THE LOW PRESSURE WAS NOT DETERMINED.

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PROJECT NUMBER
0-ES-115-LAB-003PROJECT NAME
BT II LABS LAUNDRY/DRY CLEANERITEM ID
LAD001*****
INC-DATE: 901015

TIRB: LS-A000123 03

INC CLASS: MAJOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: MAIN ELECTIC CONTROL P

FCC: 0900

OPSHRS 283.3

PROGHR 239.0

GENHRS 0.0

SCORING INFORMATION

STEP
03- (C)CLASS
OIT/UMACHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	CLONRS	RAMHRS
CNA UNS	CREW	CREW	CREW	00:01	00:01	
CNA UNS	CS	CS	CS	14:44	14:44	
CNA UNS	ORG	ORG	ORG	17:01	17:01	

DESCRIPTION OF INCIDENT

THE BOTTOM OF THE ELECTRICAL PANEL HOUSING BROKE AWAY FROM THE MAIN HOUSING.

DURING OPERATIONS START UP PROCEDURES THE OPERATOR OBSERVED THAT THE ELECTRICAL PANEL DID NOT ENERGIZE WHEN THE SYSTEM CONTROL POWER SWITCH (MAIN CIRCUIT BREAKER) WAS TURNED TO THE ON POSITION.

MAINTENANCE PERSONNEL ATTEMPTED TO OPEN THE MAIN CONTROL PANEL DOOR AND DISCOVERED IT WOULD ONLY OPEN APPROXIMATELY TWO INCHES. IT WAS OBSERVED, BY MAINTENANCE PERSONNEL THAT THE ELECTRICAL CIRCUIT BREAKER AND INDICATOR PANEL MOVED WHEN THE DOOR WAS OPENED FURTHER. THE METAL ROD CONNECTING THE MAIN CIRCUIT BREAKER TO THE 100-AMP CIRCUIT BREAKER WAS NOT LEVEL AND SEEMED TO BE BINDING.

AN INSPECTION OF THE ELECTRICAL PANEL HOUSING REVEALED THAT THE BOTTOM OF THE HOUSING HAD BROKEN AWAY FROM THE HOUSING WALLS. THE BOTTOM BROKE AND DROPPED APPROXIMATELY 1.5 INCHES. THIS BREAK WAS ALONG THE WHOLE BOTTOM REAR SEAM AND EXTENDS TOWARD THE FRONT APPROXIMATELY 5 INCHES ALONG BOTH SIDES.

IT WAS DETERMINED, BY MAINTENANCE PERSONNEL THAT THE EXCESSIVE VIBRATION AND BOUNCING WHILE CONDUCTING TRANSPORTABILITY TESTING CAUSED THE BOTTOM TO BREAK. THE CIRCUIT BREAKER AND INDICATOR PANEL DROPPED WITH THE HOUSING BOTTOM CAUSING THE MAIN CIRCUIT BREAKER CONNECTING ROD TO BIND STOPPING THE DOOR FROM BEING OPENED.

A MORE DETAILED INSPECTION WILL BE CONDUCTED ONCE THE ELECTRICAL PANEL DOOR IS OPENED.

15 SEP 1990, 1240 MST (OPHRS 283:27/PROGHR 239:04/CYCLES 459/HILES 735)

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WHILE INSPECTING THE MAIN ELECTRICAL PANEL MAINTENANCE PERSONNEL INSERTED A CROWBAR THROUGH THE GAP BETWEEN THE DOOR AND THE ELECTRICAL PANEL HOUSING. UTILIZING THE LEVERAGE AVAILABLE THE ELECTRICAL CIRCUIT BOARD AND INDICATOR PANEL WERE LIFTED, RELEASING THE TENSION ON THE MAIN CIRCUIT BREAKER AND ALLOWING THE DOOR TO BE OPENED.

THE INSPECTION OF THE ELECTRICAL CIRCUIT BOARD AND INDICATOR PANEL REVEALED THAT IT WAS COMPLETELY DETACHED FROM THE ELECTRICAL PANEL HOUSING. ALL BUT ONE RETAINING BOLT WAS MISSING. THIS ALLOWED THE ELECTRICAL CIRCUIT AND INDICATOR PANEL TO MOVE AROUND INSIDE THE PANEL HOUSING. THE VERTICAL MOVEMENT CAUSED THE BOTTOM OF THE PANEL HOUSING TO BREAK.

THE INSPECTION OF THE ELECTRICAL CIRCUIT BOARD AND INDICATOR REVEALED FOUR WIRES OF THE MAIN POWER CABLE WERE DETACHED. SEVENTEEN BLACK WIRES ON THE OUTPUT SIDE OF THE RELAYS WERE DETACHED. THERE WERE NO OBSERVATIONS OF ANY BROKEN WIRES. THE FOLLOWING IS A LISTING OF THE DETACHED WIRES:

MAIN POWER CABLE:

GREEN WIRE	BLACK WIRE
ORANGE WIRE	RED WIRE

RELAY WIRES:

218	235	244
222	236	245
230	237	246
231	238	247
233	239	248
234	243	

IT WAS DISCOVERED BY MAINTENANCE PERSONNEL THAT ONE ALLEN HEAD SCREW FROM THE ROD RETAINING BRACKET AT THE 100-AMP CIRCUIT BREAKER WAS MISSING.

THE THREE REMAINING ALLEN HEAD SCREWS WERE LOOSENED ALLOWING THE CIRCUIT BREAKER CONNECTING ROD TO BE REMOVED IN ORDER TO CLOSE THE DOOR. NO FURTHER MAINTENANCE ACTION WAS TAKEN.

REVISION #1

DATE 11/01/90 HILES 735.00 HOURS 283.27 TIME 0900 HST

ON 10-18-90, 0726 (HST), WITH THE OPHRS 283:27, PRODMRS 239:04, SEMMRS 293.7, CYCLES 459, AND THE HILES AT 735.0, THE MDEC REPRESENTATIVE PERFORMED A VISUAL INSPECTION OF THE DAMAGED ELECTRICAL PANEL CAUSED DURING MILEAGE (TRANSPORTABILITY TESTING).

THE CIRCUIT WIRING WAS REMOVED AND MARKED.

THE WIRES CONNECTING THE HARNESS TO THE PANEL DOOR WERE CUT, AND THE PANEL DOOR WAS REMOVED.

THE INDICATOR PANEL WAS REMOVED, AND THE PANEL HOUSING WIRING WAS

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SEPARATED.

THE WIRING HARNESSES WERE NUMBERED, AND DISCONNECTED FROM THE ELECTRICAL PANEL HOUSING BY THE MAINTENANCE PERSONNEL.

THE NRDEC REPRESENTATIVE DISCONNECTED THE PANEL HOUSING BOLTS.

THE NRDEC REPRESENTATIVE AND THE MAINTENANCE PERSONNEL REMOVED THE RAIN POWER BOX, AND DISCONNECTED THE BROKEN BOLTS FROM THE CONTROL PANEL.

THE MAINTENANCE PERSONNEL WELDED ALONG THE BASE OF THE CONTROL BOX OVER THE DAMAGED AREA.

A MODIFICATION WAS MADE TO THE ELECTRICAL CONTROL BOX BY WELDING A ONE INCH ANGLE IRON TO THE INSIDE OF THE REAR PORTION OF THE PANEL, APPROXIMATELY TWO FEET WIDE AND THREE FEET IN HEIGHT.

THE PANEL WAS PLACED INSIDE THE CONTROL BOX TO CHECK THE FIT OF THE PANEL FOLLOWING THE MODIFICATION. THE PANEL DID NOT FIT PROPERLY, AND THE ANGLE IRON REINFORCEMENTS WERE REMOVED. THE REINFORCEMENTS WERE REINSTALLED, TO CORRECT THE FIT, BY SPOT WELDING.

THE ELECTRICAL PANEL WAS BOLTED INTO PLACE, AND THE CUT ENDS OF THE WIRING WERE PREPARED FOR SOLDERING.

THE WIRING WAS SOLDERED AT THE HARNESSSES, AND THE HARNESSSES WERE REINSTALLED IN THE CONTROL BOX.

ON 10-19-90, 0724 (HST), WITH THE OPHRS 233:27, PRODHRS 239:04, GENHRS 294.2, CYCLES 459, AND THE HILES AT 735.0, THE NRDEC REPRESENTATIVE INSTALLED GROUNDING WIRES IN THE ELECTRICAL CONTROL BOX.

THE MAINTENANCE PERSONNEL STRIPPED CONTROL PANEL WIRES WITH A PAIR OF WIRE STRIPPERS.

THE WIRING WAS SOLDERED TO THE PANEL DOOR AND THE ELECTRICAL PANEL.

SPLICES WERE INSTALLED AT THE ENDS OF THE PANEL DOOR WIRING.

THE ELECTRICAL CIRCUITRY WIRING WAS INSTALLED INSIDE OF THE CONTROL BOX.

THE ON/OFF SWITCH SPLINE AND THE PANEL WIRING WERE INSTALLED.

THE WIRE SPLICES WERE CONNECTED TO THE PANEL DOOR, AND TIE WRAPS WERE INSTALLED ON THE WIRING.

THE REMAINDER OF THE WIRING WAS SOLDERED, AND THE FOUR RAIN WIRES WERE CONNECTED.

THE ELECTRICAL PANEL DOOR WAS REINSTALLED, AND THE THREE RAIN DOOR WIRES WERE CONNECTED TO THE PANEL.

THE PANEL WIRES WERE SPLICED, AND THE WIRE HARNESSSES WERE CONNECTED TO THE PANEL DOOR UTILIZING THE TIE WRAPS.

THE PANEL DOOR WAS ALIGNED AND ADJUSTED.

THE RAIN POWER CABLES WERE CONNECTED TO THE CIRCUIT PANEL, AND THE REFRIGERATION SYSTEM WAS SERVICED WITH FREON-12 IN THE DRY-PAUSE MODE.

THE AP-32 BREAKER WAS DISCOVERED TO BE TRIPPING CAUSING THE DRUM TO STOP TURNING. THE BREAKER WAS RESET.

TROUBLESHOOTING WAS PERFORMED ON THE SOLENOID, AND THE ELECTRICAL PANEL H-10 RELAY WAS DISCOVERED TO BE INOPERATIVE. THE H-10 RELAY WAS REWIRED AND

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CORRECTED.

FURTHER INVESTIGATION OF THE ELECTRICAL PANEL REVEALED THAT WIRE #219, OF THE B-34 BREAKER, HAD BEEN INSTALLED INCORRECTLY. THE WIRE WAS REINSTALLED FROM THE T-4 POSITION TO THE T-1 POSITION.

ON 10-20-90, AT 0721 (HST), WITH THE OPHRS 283:27, PROOHS 293:04, GENHS 299:0, CYCLES 499, AND THE HILES AT 741.7. A VISUAL INSPECTION OF THE CONTROL BOX REVEALED THAT THE MAIN ON/OFF SWITCH SPLINE DID NOT ALIGN WITH THE SWITCH HANDLE. AN ATTEMPT WAS MADE AT ALIGNING THE SPLINE WITH AN ALLEN WRENCH AND A PAIR OF VICE GRIPS. THE ATTEMPT WAS UNSUCCESSFUL. ONCE THE PROPER TOOLS WERE ATTAINED, THE SPLINE WAS ALIGNED AND READJUSTED WITH A SOCKET AND AN ALLEN WRENCH.

THE ELECTRICAL PANEL MOUNTING BOLTS WERE LOOSENED, AND THE PANEL WAS ADJUSTED INTO THE PROPER POSITION.

THREE CUT-TO-FIT WASHERS WERE INSTALLED ON THE UPPER, RIGHT, REAR, CORNER OF THE ELECTRICAL PANEL.

THE SPLINE CASE MOUNTING BOLTS AND THE SPLINE SHAFT WERE TIGHTENED.

GASKET MATERIAL WAS PLACED BEHIND THE SPLINE IN ORDER TO ALIGN THE SPLINE WITH THE MAIN POWER SWITCH.

THE ELECTRICAL PANEL MOUNTING BOLTS WERE TIGHTENED, AND A TEST CYCLE WAS PERFORMED. DURING THE TEST CYCLE, THE RINSE/EXTRACT MODE DID NOT ACTIVATE. FURTHER INVESTIGATION OF THE ELECTRICAL PANEL REVEALED THAT THE EXTRACT MODE BREAKER HAD TRIPPED. THE BREAKER WAS RESET, CORRECTING THE DISCREPANCY. ANOTHER ATTEMPT WAS MADE AT THE TEST CYCLE, AND THE SYSTEM DID NOT ENTER THE FAST EXTRACT MODE.

SOLVENT WAS TRANSFERRED FROM THE DRUM TO THE SOLVENT TANK ASSEMBLY, AND THE SYSTEM WAS POWERED DOWN. TROUBLESHOOTING BEGAN ON THE ELECTRICAL PANEL AND THE TR5 TIMER.

THE TR5 TIMER WOULD NOT ENERGIZE, AND THE TIMER (P/N TPE11DILR) AND THE RELAY COIL (P/N DILR22) WERE REPLACED.

FURTHER TROUBLESHOOTING OF THE ELECTRICAL PANEL REVEALED THAT THE TR6 TIMER WAS INOPERATIVE. CORRECTIVE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

A TEST CYCLE WAS PERFORMED, REVEALING THE BAG FILTER TO BE AT 0 POUNDS PER SQUARE INCH.

FURTHER INVESTIGATION OF THE H-10 PHASE WIRE REVEALED THAT THE INPUT AND OUTPUT WIRES HAD BEEN INSTALLED BACKWARD. THE WIRES WERE REINSTALLED CORRECTING THE BAG FILTER PRESSURE.

ANOTHER ATTEMPT WAS MADE AT A TEST CYCLE, AND THE DRUM STOPPED TURNING DURING THE DRY MODE. TROUBLESHOOTING WAS PERFORMED WITH THE DRY MODE IN PAUSE.

THE WROEC REPRESENTATIVE SUSPECTED THAT THE CARD READER'S ACCUMULATION OF DIRT MIGHT BE THE CAUSE OF THE DISCREPANCY. THE CARD READER WAS CLEANED WITH AN AIR NOSE.

TROUBLESHOOTING CONTINUED WITH THE SYSTEM IN THE DRY MODE. AT THIS

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TIME, THE DRUM APPEARED TO FUNCTION PROPERLY, AND NO CAUSE COULD BE DETERMINED.

NO FURTHER MAINTENANCE ACTION WAS PERFORMED AT THIS TIME.

ON 10-25-90, AT 0944 (HST), WITH THE OPHRS 294:44, PRODHRS 249:45, GENHRS 311.4, CYCLES 459, HAD THE HILES AT 748.4, THE MROEC REPRESENTATIVE TRIMMED A PORTION OF THE MAIN CIRCUIT BREAKER WITH A POCKET KNIFE. THE 100 AMP CIRCUIT BREAKER CONNECTING ROD WAS INSERTED INTO THE TRIMMED SPACE.

THE TR-6 TIMER (P/N TPE11DIL) WAS REMOVED AND REPLACED.

THE TR-1 TIMER (P/N TPE11DIL) WAS FOUND TO BE INOPERATIVE, AND WAS REPLACED.

THE R-10 RELAY COIL WIRES WERE REMOVED FROM THE CONTROL PANEL.

THE R-10 RELAY COIL (P/N BILR22) WAS REMOVED AND REPLACED.

THE R-10 RELAY WIRING WAS REINSTALLED.

DURING THE TEST CYCLE, THE DRUM DID NOT REVERSE IN THE WASH MODE.

THE TR-2 TIMER (P/N TPE11DIL) WAS REMOVED AND REPLACED.

ANOTHER ATTEMPT WAS MADE AT A TEST CYCLE, AND THE DRUM WOULD NOT ROTATE IN THE EXTRACT MODE.

TROUBLESHOOTING WAS PERFORMED, AND THE TR-7 TIMER RELAY COIL WAS FOUND TO BE INOPERATIVE. THE RELAY COIL (P/N BILR22) WAS REMOVED AND REPLACED.

ANOTHER ATTEMPT WAS MADE AT A TEST CYCLE AND THE DRUM WOULD NOT REVERSE IN THE WASH MODE.

TROUBLESHOOTING WAS PERFORMED ON THE CONTROL PANEL, AND THE TR-6 AND TR-3 TIMERS WERE DISCOVERED TO BE INOPERATIVE.

THE TR-6 TIMER (P/N TPE11DIL) WAS REMOVED AND REPLACED.

A TEST CYCLE WAS PERFORMED IN THE DRY MODE, AND THE DRUM WAS OBSERVED AS REMAINING IN THE HIGH SPEED DURING THE RINSE MODE.

THE MAIN POWER BOX TIMER ASSEMBLY WAS REMOVED AND REPLACED (P/N - UNKNOWN).

THE TIMER WIRES WERE REINSTALLED, AND A TEST CYCLE WAS PERFORMED.

THE CYCLE STOPPED IN THE EXTRACT MODE AND WOULD NOT RESTART.

TROUBLESHOOTING WAS PERFORMED ON THE CONTROL PANEL, AND THE TR-7 TIMER WAS DISCOVERED TO BE INOPERATIVE. THE CAUSE WAS UNDETERMINED.

THE CORRECTIVE MAINTENANCE ACTION ON THE TR-3 AND THE TR-7 TIMERS.

NO FURTHER MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

BLOCKS	FROM	TO
90	AS IS	ADD MEN INOPERATIVE
MAINT BREAKDOWN		ADD MEN BREAKDOWN
PARTS		ADD PARTS REPLACED

REVISED 03 FEB 91 TO UPDATE PARTS.

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PROJECT NAME
BY II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADDO1

INC-DATE: 901015

TIRB: L3-A000124 02

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: DRY UNIT COPPER TUBING

FCC:

OPSRS 283.3

PRODHR 239.0

GENHRS 293.7

SCORING INFORMATION

STEP
03- (C)

CLASS
OIF/UMA

CHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UMS	ORG	CREM	CREM	CLKHRS MAHRS
				18:44 20:38

DESCRIPTION OF INCIDENT

A 90 DEGREE 3/8" COPPER PIPING WAS SEVERED.

DURING AN INSPECTION OF THE LADDS, MAINTENANCE PERSONNEL DISCOVERED THAT THE 90 DEGREE, 3/8 INCH COPPER ELBOW PIPING BETWEEN THE CONDENSER AND THE COMPRESSOR WAS COMPLETELY SEVERED.

THE PROBABLE CAUSE OF THE SEVERED COPPER ELBOW PIPING IS THE VIBRATION AND BOUNCING THE LADDS UNDERWENT DURING ROAD MILEAGE ON THE UNIMPROVED ROADS AND CROSS COUNTRY-PHASE OF TRANSPORTABILITY TESTING.

NO MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

REVISION #1

DATE 11/01/90 MILES 733.00 HOURS 283.27 TIME 0900 NST

19 OCT 1990, 0913 NST (OPHRS 283.27/PRODHR 239.04/GENHRS 297.11/
CYCLES 459/MILES 733.0).

MAINTENANCE PERSONNEL REMOVED THE BROKEN 92 DEGREE ELBOW, LOCATED ON THE COPPER TUBING, BETWEEN THE COMPRESSOR AND CONDENSOR, BY HEATING WITH A TORCH. THE AREA ON THE COPPER TUBING, WHERE THE ELBOW WAS REMOVED, WAS SANDED TO PREPARE THE AREA FOR SOLDERING. THE NEW ELBOW WAS PLACED ONTO THE COPPER TUBING AND SOLDERED IN PLACE USING A TORCH.

THE EVACUATION PUMP WAS CONNECTED TO THE DRY UNIT AND THE REFRIGERANT AND MOISTURE WERE REMOVED. THE EVACUATION PUMP WAS DISCONNECTED. THE DRY UNIT WAS SERVICED WHILE THE SYSTEM WAS IN THE COOL DOWN MODE OF OPERATION. THE DRY UNIT WAS NOT SERVICING ADEQUATELY. THE MRDEC REPRESENTATIVE DETERMINED THAT THE DRY MODE OF OPERATION BE SELECTED AND SERVICING WAS COMPLETED USING APPROXIMATELY 30 POUNDS OF FREON-12. IT WAS ALSO DETERMINED THAT MOISTURE STILL EXISTED IN THE REFRIGERATION LINES. BY OBSERVING

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ICE FORMING ON THE LINES.

THE LADDS WAS PREPARED FOR TRANSPORTATION, CONNECTED TO A 5 TON TRUCK, AND TRANSPORTED TO A MAINTENANCE SITE, TO ALLOW OVERNIGHT, UNSUPERVISED OPERATION OF THE EVACUATION PUMP. THE PUMP REMAINED OPERATIONAL FOR APPROXIMATELY 15 HOURS.

20 OCT 1990, 0720 NST (OPHRS 283:27/PRODHRS 239:04/GENHRS 299.0/ CYCLES 459/MILES 741.8). THE EVACUATION PUMP WAS DISCONNECTED AND SERVICING BEGAN. APPROXIMATELY 30 POUNDS OF FREON-12 WAS USED, WHILE IN THE DRY MODE OF OPERATION.

NO FURTHER MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

BLOCK#	FROM	TO
35	DEFER MAINT	MAINTAINED
57	NO ACTION TAKEN	REPLACED
63	0.00 (REPAIRED)	283:27
64	0.00 (REPAIRED)	239:04
65	0.00 (REPAIRED)	237.7
90		ADD NEW NARRATIVE
PARTS		ADD NEW PARTS
MAINT		
BREAKDOWN		ADD NEW BREAKDOWN

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901019

TIRB: L5-A000126 01

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: STILL CONTROL ASSEMBLY

FCC: 02

OPSHRS 283.3

PRODHRS 239.0

GENHRS 297.9

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONF/UMA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
CNA	UNS	GS	GS	GS	03:46 03:46

DESCRIPTION OF INCIDENT

THE STILL CONTROL ASSEMBLY WAS DAMAGED DURING TRANSPORTABILITY TESTING.

DURING THE INSPECTION OF THE STILL CONTROL ASSEMBLY, IT WAS DISCOVERED

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BY THE NRDEC REPRESENTATIVE THAT WIRE #21 WAS DISCONNECTED FROM THE STRIP TERMINAL. THE NRDEC REPRESENTATIVE CONNECTED THE WIRE TO THE STRIP TERMINAL AND IT WAS TIGHTENED. THE DOOR TO THE STILL CONTROL PANEL WAS SECURED.

22 OCT 1990, 0850 MST (OPSHRS 288:03/PRODHRS 240:09/GENHRS 305.7/
CYCLES 459/MILES 748.4)

DURING THE STILL WARM UP PERIOD, PRIOR TO FULL OPERATIONS, IT WAS DISCOVERED BY THE MAINTENANCE PERSONNEL THAT THE STILL PREHEATER INDICATOR LOCATED ON THE STILL CONTROL PANEL DOOR WAS FLICKERING ON AND OFF.

MAINTENANCE PERSONNEL BEGAN TROUBLESHOOTING PROCEDURES USING A VOLT-METER. IT WAS DETERMINED THAT THE HIGH TEMPERATURE THERMOSTAT, LOCATED IN THE LOWER RIGHT CORNER OF THE STILL ELECTRICAL CONTROL PANEL WAS INTERMITTENT. DURING TROUBLESHOOTING THE PREHEATER INDICATOR STARTED OPERATING AS DESIGNED. NO FURTHER ACTION WAS TAKEN.

23 OCT 1990, 0827 MST (OPSHRS 292:22/PRODHRS 247:31/GENHRS 309.4/
CYCLES 459/MILES 748.4)

THE NRDEC REPRESENTATIVE REMOVED THE INSULATION FROM THE SUCTION LINE, BEHIND THE STILL ELECTRICAL PANEL WITH A KNIFE. THE INSULATION WAS REMOVED TO ALLOW ACCESS TO THE HIGH THERMOSTAT SENSING BULB. THE SENSING BULB WAS REMOVED FROM THE SUCTION LINE.

IT WAS DETERMINED THAT THE STILL HIGH THERMOSTAT AND SENSING BULB WERE NOT THE CAUSE OF THE PREHEATER AND PREHEATER INDICATOR.

THE MAINTENANCE PERSONNEL TROUBLESHOT THE STILL PREHEATER INDICATOR BY CHECKING THE ELECTRICAL CURRENT FROM THE STILL HIGH THERMOSTAT WITH A VOLTMETER.

THE STILL PREHEATER AND INDICATOR BEGAN OPERATING AS DESIGNED. TROUBLESHOOTING WAS DEFERRED. THERE WAS NO OBVIOUS REASON FOR THE PREHEATER AND INDICATOR TO BEGIN OPERATING.

23 OCT 1990, 1009 MST (OPSHRS 294:47/PRODHRS 249:43/GENHRS 311.4/
CYCLES 459/MILES 748.4)

AFTER THE STILL WAS SERVICED, IT WAS DISCOVERED THAT THE STILL PRE-HEATER INDICATOR LIGHT WAS OUT. MAINTENANCE PERSONNEL USED A VOLTMETER TO TROUBLESHOOT THE STILL ELECTRICAL PANEL.

DURING TROUBLESHOOTING THE PREHEATER AND INDICATOR PANEL BEGAN FUNCTIONING. THE MAINTENANCE PERSONNEL CONTINUED CHECKING FOR ANY LOOSE OR DISCONNECTED WIRES. WHEN THE MAINTENANCE PERSONNEL MOVED THE WIRING HARNESS THE PREHEATER STARTED FLICKERING. IT WAS DETERMINED THAT WIRE #8 AND WIRE #21 COULD HAVE A BREAK INSIDE THE RUBBER INSULATION.

THE MAINTENANCE PERSONNEL REPLACED WIRES #8 AND #21 INSIDE THE STILL CONTROL PANEL, FROM THE HIGH TEMPERATURE LIMIT CUTOFF TO THE STRIP TERMINAL. THE WIRES WERE THEN REPLACED BY RUNNING WIRES THROUGH THE CONDUIT, FROM THE HIGH TEMPERATURE LIMIT CUTOFF TO THE FLOW SWITCH #203, LOCATED NEXT TO THE STILL INLET VALVE.

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LADDB01

NO FURTHER MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

 INC-DATE: 901020
 TIRN: L3-A000127 01
 INC CLASS: MINOR
 ACTION-TAKEN: REPLACED
 PART NAME: CHECK VALVE
 FCC: 04
 OPSHRS 286.5
 PRODHRS 239.0
 GENHRS 304.6

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONT/UMA	HARDWARE/CVE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	CLKHRS	MANHRS
CHA UNS	ORF	ORG	GS		02:07	02:22

DESCRIPTION OF INCIDENT

LOW PRESSURE DURING DRY UNIT OPERATION.

WHILE OPERATING THE DRY UNIT IT WAS DISCOVERED BY THE MRDEC REPRESENTATIVE, THAT THE PRESSURE WAS LOW AND REQUIRED SERVICING. APPROXIMATELY TEN POUNDS OF FREON-12 WERE USED TO FULLY PRESSURIZE THE DRY UNIT. THE DRY UNIT WAS THEN INSPECTED WHILE OPERATING. NO LEAKS WERE DISCOVERED AT THIS TIME.

21 OCT 1990, 1057 MST (OP HRS. 286:58; PROD HRS. 239:04; G.HRS. 303.3; CYCLES 459; MILES 748.4). THE MRDEC REPRESENTATIVE OBSERVED THE DRY UNIT SIGHT GAUGE WAS CLEAR. THE SIGHT GAUGE SHOULD APPEAR CLOUDY DURING THE DRYING CYCLE. THE MRDEC REPRESENTATIVE STARTED TROUBLESHOOTING THE DRY UNIT USING A LEAKTEC LEAK DETECTOR. THE MRDEC REPRESENTATIVE DISCOVERED A FREON-12 LEAK APPROXIMATELY ONE INCH FROM THE 90 DEGREE ELBOW AT THE BASE OF A CHECK VALVE. THE 90 DEGREE ELBOW WAS PREVIOUSLY REPLACED AND REPORTED IN A SEPARATE TIR. MAINTENANCE WAS DEFERRED AT THIS TIME.

22 OCT 1990, 1401 MST (OP HRS. 290:37; PROD HRS. 246:06; GEN HRS. 308.2; CYCLES 459; MILES 748.4). THE DRY UNIT WAS EVACUATED OF FREON-12, USING AN EVACUATION PUMP.

THE CHECK VALVE AND 90 DEGREE ELBOW WERE HEATED USING A TORCH, AND DISASSEMBLED AT THE SOLDER JOINTS, FROM THE DRY UNIT PLUMBING LINE. USING A TORCH, THE ORIGINAL 90 DEGREE ELBOW AND NEW CHECK VALVE WERE SOLDERED TOGETHER. THE 90 DEGREE ELBOW AND CHECK VALVE WERE SOLDERED INTO PLACE BETWEEN THE COMPRESSOR AND CONDENSER PLUMBING LINE.

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THE DRY UNIT WAS THEN INSPECTED FOR ANY ADDITIONAL LEAKS. NO LEAKS WERE DISCOVERED. THE EVACUATION PUMP WAS CONNECTED TO THE DRY UNIT AND THE FREON-12 WAS EVACUATED. THE DRY UNIT WAS SERVICED WITH APPROXIMATELY 30 POUNDS OF FREON-12 TO REACH A FULLY PRESSURIZED REFRIGERATION SYSTEM. THE DRY UNIT OPERATED WITH NO FURTHER MAINTENANCE ACTIONS REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901021
TIRN: L5-A000128 01
INC CLASS: MINOR
ACTION-TAKEN: DISASSEMBLED
PART NAME: LIMIT SWITCH
FCC: 0700
OPSHRS 286.6
PRODHR 239.1
GENHRS 304.7

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	ORG	ORG	ORG	00:12	00:12

DESCRIPTION OF INCIDENT

THE VIBRATION LIMIT SWITCH FAILED.

DURING THE EXTRACT MODE, THE NRDEC REPRESENTATIVE OBSERVED THAT THE VIBRATION SWITCH ASSEMBLY DID NOT FUNCTION PROPERLY. FURTHER INVESTIGATION REVEALED THAT THE LIMIT SWITCH ARM WAS BROKEN AT THE BASE.

THE MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

23 OCT 1990, 1315 NST (OPHRS 286:56.PRODHR 239:09/GENHRS 304.7/CYCLE 459/
MILES 748.4)

THE MAINTENANCE PERSONNEL REMOVED THE REMAINING PORTION OF THE BROKEN LIMIT SWITCH BY REMOVING TWO REMAINING SCREWS. THE LIMIT SWITCH WAS REPLACED AND THE TWO SCREWS WERE REINSTALLED.

THE MAINTENANCE PERSONNEL DISCOVERED THAT THE NEW LIMIT SWITCH HAD AN INCORRECT SIZE WHEEL. THE NRDEC REPRESENTATIVE REMOVED THE WHEEL AND ADJUSTED THE VIBRATION SWITCH ASSEMBLY TO ALLOW THE LIMIT SWITCH ARM TO BECOME THE ACTUATION POINT WITH THE DRUM.

A NEW LIMIT SWITCH WHEEL WAS ORDERED, AND FURTHER MAINTENANCE WAS DEFERRED UNTIL A LATER TIME.

REVISION 02/06/91 - SCORING CONFERENCE.

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PROJECT NUMBER
8-ES-113-LAD-003PROJECT NAME
DT II LADS LAUNDRY/DRY CLEANERITEM ID
LAD001

 INC-DATE: 901021
 TIRN: L3-A002129 02
 INC CLASS: N110R
 ACTION-TAKEN: REPLACED
 PART NAME: SENSOR
 FCC: 0200
 OPSHRS 286.3
 PRODHRS 239.0
 GENHRS 304.6

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	OMF/UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
UMS	GS	GS	GS	04:23	06:42

DESCRIPTION OF INCIDENT

THE STILL DID NOT TRANSFER SOLVENT.

DURING THE UNSCHEDULED MAINTENANCE, THE MRDEC REPRESENTATIVE OBSERVED THAT THE STILL WAS NOT TRANSFERRING SOLVENT TO THE RINSE TANK. FURTHER INVESTIGATION REVEALED THAT THE STILL UPPER LEVEL SENSOR WAS INOPERATIVE. THE CAUSE WAS UNDETERMINED.

THE INOPERATIVE SENSOR WAS REMOVED, AND THE NEW SENSOR (P/N PL6-1-9836) WAS INSTALLED.

THE SYSTEM WAS OPERATED, AND THE SOLVENT WAS TRANSFERRED SUCCESSFULLY. NO FURTHER MAINTENANCE ACTION WAS TAKEN AT THIS TIME.

22 OCT 1990, 1015 NST (CP HRS 290:00/PROD HRS 242:06/GEN HRS 307.6/
CYCLES 459/MILES 748.4)

WHILE PERFORMING UNSCHEDULED MAINTENANCE, ON THE STILL ASSEMBLY, IT WAS OBSERVED THAT THE STILL TRANSFER INDICATOR HAD NOT ILLUMINATED. APPROXIMATELY FORTY-FIVE MINUTES AFTER THE STILL READY INDICATOR ILLUMINATED, THE MRDEC REPRESENTATIVE DETERMINED THAT MORE THAN A SUFFICIENT AMOUNT OF TIME HAD PASSED TO ILLUMINATE THE TRANSFER INDICATOR, AND FOR SOLVENT TO TRANSFER.

THE MRDEC REPRESENTATIVE DETERMINED THAT THE CONTROLLING DEVICES FOR THE TRANSFER SYSTEM WERE TWO LEVEL SENSORS. THE LEVEL SENSORS ARE LOCATED ON THE RIGHT REAR CORNER OF THE STILL PALLET ASSEMBLY, ABOVE THE TRANSFER PUMP.

AN INSPECTION OF THE UPPER LEVEL SENSOR, REVEALED A BROKEN WIRE INSIDE THE ELECTRICAL CONDUIT INSPECTION PLATE. THE WIRE WAS RECONNECTED, USING THE EXISTING WIRE NUT. TROUBLESHOOTING CONTINUED ON THE TRANSFER ELECTRICAL

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BT II LADDS LAUNDRY/DRY CLEANER

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LADD01

CIRCUIT, USING A VOLT METER. THE NRDEC REPRESENTATIVE DETERMINED THAT BOTH THE UPPER AND LOWER LEVEL SENSORS HAD FAILED.

THE NRDEC REPRESENTATIVE AND MAINTENANCE PERSONNEL REMOVED THE FOUR MOUNTING BOLTS, LOCATED AT THE LEFT OUTSIDE BASE OF THE STILL PALLET ASSEMBLY. THE STILL WAS DRAINED OF SOLVENT AND THE FOUR REMAINING MOUNTING BOLTS WERE REMOVED FROM THE RIGHT INSIDE BASE OF THE STILL PALLET ASSEMBLY. THE THREE SOLVENT HOSES WERE DISCONNECTED AT THE STILL PALLET ASSEMBLY AND SECURED AWAY FROM THE STILL ASSEMBLY. THE NRDEC REPRESENTATIVE, OPERATING THE FORK LIFT, MOVED THE STILL PALLET ASSEMBLY APPROXIMATELY ONE FOOT FORWARD ON THE TRAILER, TO ACCESS THE LOWER LEVEL SENSOR.

THE NRDEC REPRESENTATIVE REMOVED THE ELECTRICAL CONDUIT FROM THE LOWER LEVEL SENSOR AND THEN REMOVED THE LOWER LEVEL SENSOR. A NEW SENSOR WAS INSTALLED AND THE ELECTRICAL CONDUIT WAS REINSTALLED.

THE NRDEC REPRESENTATIVE, OPERATING THE FORK LIFT, MOVED THE STILL PALLET ASSEMBLY BACK INTO PLACE, AND THE EIGHT MOUNTING BOLTS WERE REINSTALLED TO THE LEFT AND RIGHT BASE OF THE STILL PALLET ASSEMBLY. THE THREE SOLVENT HOSES WERE REINSTALLED AND MAINTENANCE WAS DEFERRED DUE TO THE REMAINING PARTS REQUIRED BEING ORDERED.

24 OCT 1990, 1324 NST (OP HRS 293:09/PROD HRS 248:10/GEN HRS 310.3/
CYCLES 439/MILES 748.4)

THE NRDEC REPRESENTATIVE REMOVED THE ELECTRICAL CONDUIT FROM THE UPPER LEVEL SENSOR. THE UPPER LEVEL SENSOR WAS REMOVED AND A NEW SENSOR WAS INSTALLED. THE ELECTRICAL CONDUIT WAS REINSTALLED, COMPLETING THE MAINTENANCE ACTION.

THE STILL ASSEMBLY WAS POWERED UP, AND THE TRANSFER SYSTEM MONITORED. THE TRANSFER SYSTEM OPERATED AS DESIGNED. NO FURTHER MAINTENANCE ACTION WAS REQUIRED AT THIS TIME.

REVISION #1 DATE 11-20-90 MILES 748.40 HOURS 286.31

BLOCK#	FROM	TO
35	DEFERRED MAINT.	MAINTAINED

REVISION 02/06/91 - SCORING CONFERENCE.

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PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 901021

TIR#: L3-A000130 02

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: BULB

FGC: 02

OPSHRS 288.0

PRODHR 240.1

GENHRS 305.7

SCORING INFORMATION

STEP
04U (C)CLASS
UMACHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE
CHA UNSUSED PRESC RECON
CS ORG ORGCLKHRS HANHRS
00:03 00:03

DESCRIPTION OF INCIDENT

THE NBC INDICATOR BULB WAS BURNT OUT.

DURING UNSCHEDULED MAINTENANCE THE MRDEC REPRESENTATIVE DISCOVERED THAT THE BULB FOR THE NBC INDICATOR WAS BURNT OUT. THE MRDEC REPRESENTATIVE REMOVED THE FAILED BULB AND REPLACED IT WITH ONE FROM HIS MAINTENANCE CASE. THE PART NUMBER FOR THE BULB COULD NOT BE DETERMINED.

NO FURTHER MAINTENANCE ACTION WAS TAKEN OR REQUIRED.

REVISED 03 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901023

TIR#: L3-A000131 01

INC CLASS: MINOR

ACTION-TAKEN: REPLACED

PART NAME: STILL FILL INDICATOR L

FGC: 0200

OPSHRS 293.0

PRODHR 248.0

GENHRS 310.2

SCORING INFORMATION

STEP
04U (C)CLASS
UMACHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE
CHA UNSUSED PRESC RECON
ORG GS GSCLKHRS HANHRS
00:05 00:05

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PROJECT NUMBER
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PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DESCRIPTION OF INCIDENT

THE STILL FILLED INDICATOR WAS NOT OPERABLE.

DURING UNSCHEDULED MAINTENANCE, THE MRDEC REPRESENTATIVE DISCOVERED THAT THE STILL FILLED INDICATOR LIGHT WAS INOPERABLE. THE STILL SIGHT TUBE INDICATED THAT THE STILL HAD ADEQUATE SOLVENT TO CAUSE THE INDICATOR LIGHT TO ACTIVATE.

THE MRDEC REPRESENTATIVE REMOVED THE STILL FILLED INDICATOR BULB, AND DISCOVERED THAT THE BULB HAD FAILED.

A NEW BULB WAS INSTALLED AND THE DISCREPANCY WAS CORRECTED.

NO FURTHER ACTION WAS TAKEN OR REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901023

TIR#: L5-A000132 02

INC CLASS: MINOR

ACTION-TAKEN: REMOVED

PART NAME: REFRIGERATION GAUGES

FCC: 04

OPSHRS 292.2

PRODHR 247.4

GENHRS 309.3

SCORING INFORMATION

STEP	CLASS	CHARGE
01F (C)	NON-RAN	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRES	RECON	ACTIVE	
				CLKHRS	MANHRS
CNA UNS	DS	DS	GS	00:37	00:37

DESCRIPTION OF INCIDENT

THE REFRIGERATION PRESSURE WAS DISCOVERED TO BE LOW.

DURING AN INSPECTION OF THE REFRIGERATION DRY UNIT IT WAS DISCOVERED, BY THE MRDEC REPRESENTATIVE, THAT THE REFRIGERATION PRESSURE WAS LOW. THE GAUGES INDICATED A PRESSURE OF -12 PSI OVER 75 PSI.

THE MAINTENANCE PERSONNEL UTILIZED A "LEAKTEC" LEAK DETECTOR TO INSPECT THE COPPER TUBING OF THE REFRIGERATION DRY UNIT. THE INSPECTION REVEALED THAT THERE WERE NO LEAKS IN THE COPPER TUBING.

A LEAK WAS DISCOVERED AT THE CONNECTION BETWEEN THE REFRIGERATION GAUGE AND THE LOW PRESSURE HOSE. THIS GAUGE ASSEMBLY WAS INSTALLED BY THE MRDEC REPRESENTATIVE DURING THE NEW EQUIPMENT TRAINING AT THE BEGINNING OF THE TEST. THE GAUGES WERE UTILIZED FOR OBTAINING DATA ON THE REFRIGERATION DRY UNIT, AND ARE NOT TEST ITEMS.

THE GAUGES WERE REMOVED CORRECTING THE PROBLEM, AND NO FURTHER MAINTENANCE ACTION WAS TAKEN.

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PROJECT NUMBER
0-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

REVISION 1: DATE 11-20-90 HILES 748.4

BLOCK #	FROM	TO
41	04U (P)	01C
42	UNA (P)	TEST PECULIAR

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901023

TIRB: LS-A000133 01

INC CLASS: MINOR

ACTION-TAKEN: REPAIRED

PART NAME: ELECTRICAL WIRE #81

FGC: 0200

OPSHRS 295.1

PRODNR 249.4

GENHRS 311.8

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UNA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	CS	CS	CS	CLKHRS MMHRS 00:03 00:03

DESCRIPTION OF INCIDENT

THE ELECTRICAL WIRE #81 WAS DISCOVERED TO BE LOOSE.

DURING UNSCHEDULED MAINTENANCE THE MRDEC REPRESENTATIVE DISCOVERED THAT ELECTRICAL POWER WIRE #81 WAS DISCONNECTED FROM ITS STILL CONTROL PANEL TERMINAL. THE MRDEC REPRESENTATIVE CONNECTED WIRE #81 TO ITS TERMINAL AND TIGHTENED THE RETAINING SCREW WITH A STANDARD JEWELER'S SCREWDRIIVER. NO FURTHER MAINTENANCE ACTION WAS TAKEN OR REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
8-ES-115-LAB-003PROJECT NAME
BY II LABS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 901114

TIRW: L5-A000134 02

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: STILL RESERVOIR

FGC: 0200

OPSHRS 297.1

PRODHR 251.1

GENHRS 315.4

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW		02:48	02:48
CHA UNS	ORG	ORG	ORG		00:00	00:00

DESCRIPTION OF INCIDENT

A CLASS TWO LEAK ABOVE THE STILL RESERVOIR SIGHT GLASS.

DURING THE B-PHCS FLUID WAS DISCOVERED, BY THE OPERATOR ON THE FOAM RUBBER INSULATION ON THE LEFT SIDE OF THE STILL RESERVOIR SIGHT GLASS. THE FLUID WAS SITTING IN A RECESSED AREA DIRECTLY ABOVE THE STILL RESERVOIR GLASS AND HAD SOAKED INTO THE FOAM RUBBER INSULATION. WHERE THE FLUID CAME INTO THE FOAM COULD NOT BE DETERMINED BECAUSE OF THE INSULATION. THE FLUID LOOKED LIKE OL AND DID NOT FEEL OR SMELL LIKE SOLVENT.

MAINTENANCE WAS DEFERRED.

REVISION #1

DATE 11/29/90 HILES 748.40 HOURS 297.08 TIME 1405 NST

TO UPDATE MAINTENANCE DATA AND NARRATIVE

16 NOV 1990, 0915 NST (OPSHRS 317:18/PROD HRS 269:08/GENHRS 337.5/CYCLE 489/HILES 748.4).

MAINTENANCE PERSONNEL REMOVED THE INSULATION FROM AROUND THE TOP OF THE BOIL SUMP VIEW AND WIPED IT DRY, AND WIPED THE WET AREA WITH SHOP RAGS. MAINTENANCE TRIED TO DETERMINE THE LOCATION AND CONFIRM THE CLASSIFICATION OF THE PREVIOUSLY REPORTED CLASS II LEAK FROM THE STILL. MAINTENANCE PERSONNEL LOCATED THE STILL LEAK AT THE COUPLING OF THE SERVICE LINE, ON THE TOP LEFT SIDE OF THE BOIL SUMP VIEW. THE LEAK IS ACTUALLY A CLASS I LEAK AND NOT A CLASS II LEAK AS PREVIOUSLY REPORTED.

MAINTENANCE PERSONNEL TIGHTENED THE COUPLING NUTS ON THE SERVICE LINE USING TWO 10-INCH OPEN END WRENCHES.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 134

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BY II LABS LAUNDRY/DRY CLEANER

ITEM ID
LAB001

NO FURTHER ACTION HAS TAKEN.

BLOCK 0	FROM	TO
90	AS HAS	ADD MEN NARRATIVE
MAINTENANCE	AS HAS	ADD MEN DATA
DATA		

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901114
TIRB: LS-A000137 01
INC CLASS: MINOR
ACTION-TAKEN: OPERATED
PART NAME: REFRIGERATION UNIT
FCC: 0400
OPSHRS 297.4
PROGHR 252.3
GENHRS 317.2

SCORING INFORMATION

STEP	CLASS	CHARGE
040 (C)	UMA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UMS	CREN	CREN	CREN	CLNHR5 HAMHRS
				00:36 00:36

DESCRIPTION OF INCIDENT

THE REFRIGERATION UNIT SIGHT GAUGE INDICATED LOW PRESSURE.

WHILE IN THE DRY MODE OF OPERATIONS IT WAS DISCOVERED BY THE OPERATOR THAT THE REFRIGERATION UNIT SIGHT GAUGE WAS NOT CLOUDY. THE CLEAR GAUGE INDICATED THE REFRIGERATION UNIT WAS NOT WORKING DUE TO LOW REFRIGERANT PRESSURE.

OPERATIONS WERE CONTINUED UTILIZING THE DRY HEATER.

ON 11-15-90, AT 0620 (HST), WITH THE OPHRS 304:34, PROGHR5 238:10, GENHRS 324.6, CYCLES 470, AND THE HILES AT 740.4, THE OPERATOR OBSERVED THAT THE DRY UNIT SIGHT GAUGE WAS CLOUDY FOR APPROXIMATELY TEN SECONDS AND THEN BECAME CLEAR. THE INCIDENT WAS OBSERVED DURING THE DRY MODE. THE ELECTRIC HEAT SWITCH WAS ACTIVATED AND THE OPERATIONS WERE CONTINUED.

AT 0729 (HST) THE DRY UNIT WAS SERVICED WITH FREON-12 WHILE IN DRY MODE ON PAUSE.

THE DISCREPANCY WAS CORRECTED AND THE OPERATIONS WERE CONTINUED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 133

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

INC-DATE: 901114
TIRB: L5-A000138 02
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: BAG FILTER
FGC: 0100
OPSRS 298.4
PROGR 253.4
CEJHRS 319.4

SCORING INFORMATION

STEP	CLASS	CHARGE
040 (C)	UNA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UNS	ORG	ORG	ORG	CLKHRS HMMHRS
				00:20 00:20

DESCRIPTION OF INCIDENT

THE BAG FILTER WAS FILLED.

DURING A MAINTENANCE CHECK IT WAS DISCOVERED BY THE OPERATOR THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 25 PSI AND THE LOWER PRESSURE GAUGE INDICATED 15 PSI. THE 10 PSI DIFFERENCE INDICATED THAT THE BAG FILTER REQUIRED CHANGING.

AFTER CYCLE #462 MAINTENANCE PERSONNEL REMOVED THE COVER TO THE BAG FILTER COMPARTMENT. MAINTENANCE PERSONNEL DRAINED AND REMOVED THE BAG FILTER AND INSTALLED A NEW ONE. THE "O-RING" AND COVER WERE REPLACED. THE COVER WAS TIGHTENED DOWN COMPLETING THIS MAINTENANCE ACTION.

REVISED 03 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 136

PROJECT NUMBER
0-ES-115-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 901115

TIRN: L3-A000139 01

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: GAUGE,PRESSURE

FGC: 1000

OPSHRS 306.5

PRODHR 261.0

GENHRS 327.0

SCORING INFORMATIONSTEP
01F (C)CLASS
NON-RANCHARGE
MANUALS

MAINTENANCE INFORMATION

ACTIVE

CHAR TYPE	USED	PRESC	RECON	CLKHRS	MANHRS
CNA UMS	CREW	ORG	CREW	04:04	04:04
CNA UMS	ORG	ORG	CREW	00:14	00:14

DESCRIPTION OF INCIDENT

THE BAG FILTER GAUGES DISPLAYED IRREGULAR READINGS.

DURING THE OPERATIONS, AS THE SYSTEM ENTERED THE RINSE MODE, THE OPERATOR OBSERVED THAT THE UPPER BAG FILTER GAUGE DISPLAYED 10 PSI, WHEREAS THE LOWER GAUGE DISPLAYED 20 PSI. UNDER NORMAL CONDITIONS, THE UPPER GAUGE SHOULD DISPLAY AN EQUAL OR GREATER PRESSURE THAN THE LOWER GAUGE.

THE CAUSE WAS UNDETERMINED AT THIS TIME, AND THE MAINTENANCE WAS DEFERRED.

16 NOV 1990, 0734 NST (OPHRS 315:48/PRODHR 267:48/GENHRS 335.9/CYCLED 487/
MILES 740.4)

THE BAG FILTER ASSEMBLY WAS INSPECTED BY MAINTENANCE PERSONNEL TO INSURE THE BAG FILTER AND THE BAG FILTER BASKET WAS SEATED WITHIN THE ASSEMBLY PROPERLY. THERE WERE NO OBSTRUCTIONS THAT COULD CAUSE THE GAUGE TO BE INOPERATIVE.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 137

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 901115

TIRN: LS-A000140 01

INC CLASS: MINOR

ACTION-TAKEN: INSPECTED

PART NAME: POWER CABLE, MAIN

FCC: 0900

OPSHRS 311.3

PRODNR 264.4

GENMRS 331.7

SCORING INFORMATION

STEP
01F (C)

CLASS
NON-RAN

CHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE
CHA UNS

USED PRESC RECON
CREN CREN CREN

ACTIVE
CLKHRS NAMHRS
00:01 00:01

DESCRIPTION OF INCIDENT

MAIN POWER CABLE WORN IN TWO LOCATIONS.

DURING A B-PHCS IT WAS DISCOVERED BY THE OPERATOR THAT THE MAIN POWER CABLE WAS WORN IN TWO LOCATIONS. THE WEAR WAS CAUSED BY A VERTICAL BRACE CONNECTING THE TRAILER TO THE BACK OF THE ELECTRICAL PANEL HOUSING FRAME. THE LOCATION OF THE FIRST WEAR MARK IS 6 INCHES FROM THE POINT WHERE IT ENTERS THE ELECTRICAL PANEL AND IS WORN TO AN APPROXIMATE 1/8 INCH DEPTH. THE SECOND WEAR MARK IS LOCATED APPROXIMATELY 3 INCHES ABOVE THE TRAILER AND IS WORN TO AN APPROXIMATE 1/8 INCH DEPTH. BOTH WEAR MARKS WERE CAUSED BY THE VIBRATION AGAINST THE VERTICAL BRACE.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 138

PROJECT NUMBER
9-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 901115

SCORING INFORMATION

TIRD: L5-A000141 01

INC CLASS: MINOR

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: SERVICE HOSE HORN

FCC: 1200

OPSHRS 311.3

PROGHR 264.4

GENHRS 331.7

STEP
01F (C)

CLASS
NON-RAN

CHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE
CNA UNS

USED PRESC RECON
CREW CREW CREW

ACTIVE
CLKHRS HANHRS
00:01 00:01

DESCRIPTION OF INCIDENT

SERVICE HOSE SHOWING SIGNS OF WEAR DUE TO VIBRATION.

DURING THE D-PHCS OF THE LADDS THE OPERATOR DISCOVERED THAT THE 2 INCH SERVICE HOSE THAT CONNECTS THE BAG FILTER ASSEMBLY TO THE SOLVENT HOLDING TANKS WAS RUBBING AGAINST THE METAL BRACKET ABOVE THE REAR OF THE DRUM HOUSING ASSEMBLY. THE SERVICE HOSE IS BEGINNING TO SHOW WEAR, DUE TO THE VIBRATION OF THE HOSE AGAINST THE METAL BRACKET. THE RUB MARK ON THE SERVICE HOSE IS OVAL IN SHAPE APPROXIMATELY 1 1/2 INCHES LONG AND 1/2 INCH WIDE.

NO FURTHER ACTION TAKEN.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 139

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

INC-DATE: 901116
TIRM: L5-A000142 03
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: TR-1 TIMER
FCC: 0700
OPSHRS 317.5
PRODNR 266.2
GENHRS 338.7

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONF/UHA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:02	00:02
CHA UNS	ORG	ORG	ORG	01:30	01:30

DESCRIPTION OF INCIDENT

DRUM BASKET NOT ROTATING IN THE PROPER DIRECTION.

DURING CYCLE 491, WHILE IN THE DRY MODE, THE DRUM BASKET STOPPED ROTATING. THE OPERATOR TURNED THE LADDS OFF AND OPENED THE ELECTRICAL PANEL DOOR TO INSPECT FOR BROKEN INSULATION, BARE WIRES, AND LOOSE OR BROKEN CONNECTORS. NONE WERE FOUND. THE OPERATOR CLOSED THE ELECTRICAL PANEL DOOR AND POWERED UP THE LADDS. THE OPERATOR STARTED THE LADDS IN THE DRY MODE AND THE DRUM BASKET ROTATED CLOCKWISE ONLY.

DURING NORMAL PERFORMANCE THE DRUM BASKET SHOULD ROTATE CLOCKWISE, FOR APPROXIMATELY 48 SECONDS, PAUSE, AND THEN CHANGE DIRECTIONS FOR APPROXIMATELY 38 SECONDS AS PER TM-DEP-10-3510-221-14. CYCLES 492 AND 493 OPERATED WITHOUT INCIDENT.

DURING CYCLE 494 THE OPERATOR OBSERVED THE DRUM BASKET TURNING CLOCKWISE ONLY WHILE IN THE WASH MODE. DURING THE RINSE MODE THE DRUM BASKET STOPPED ROTATING. THE OPERATOR POWERED THE LADDS DOWN AND INSPECTED INSIDE OF THE ELECTRICAL PANEL FOR BROKEN OR LOOSE WIRING. NONE WERE FOUND. THE OPERATOR REINITIALIZED POWER (CONTINUED OPERATIONS), AND MONITORED THE ROTATION OF THE DRUM BASKET. THE DRUM BASKET CONTINUED TO ROTATE ONLY IN THE CLOCKWISE DIRECTION DURING, THE RINSE, EXTRACT, AND DRY MODES. THE LADDS WAS SHUTDOWN TO TROUBLESHOOT A SEPARATE MAINTENANCE PROBLEM.

MAINTENANCE PERSONNEL REINITIALIZED POWER TO THE LADDS AND BEGAN TROUBLESHOOTING THE ELECTRICAL CIRCUITS IN THE ELECTRICAL CONTROL PANEL WITH A MULTIMETER. MAINTENANCE PERSONNEL DETERMINED THAT THE TR-1 TIMER IS NOT TIMING OUT AFTER APPROXIMATELY 35 SECONDS PER TM-DEP-10-3510-221-14. THE TR-1 TIMER ONLY WORKS WHEN TAPPED ON. MAINTENANCE PERSONNEL SHUTDOWN THE LADDS, DISCONNECTED THE WIRES FROM THE TR-1 TIMER, AND REMOVED THE TR-1

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SUPPORTABILITY ANALYSIS CHART

PAGE: 140

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

TIMER BECAUSE, IT WAS NOT WORKING PROPERLY. MAINTENANCE PERSONNEL REINSTALLED THE ORIGINAL TR-1 TIMER (THAT WAS REMOVED 10/23/90) AND STARTED THE LADDS, IN THE WASH PAUSE MODE, TO DETERMINE IF THE ORIGINAL TR-1 TIMER WAS FUNCTIONING PROPERLY.

MAINTENANCE PERSONNEL USED A MULTIMETER TO TROUBLESHOOT THE TR-1 TIMER, ADDITIONALLY THEY OBSERVED THE FUNCTIONING OF THE REINSTALLED ORIGINAL TR-1 TIMER. MAINTENANCE PERSONNEL DETERMINED THAT THE ORIGINAL TR-1 TIMER WAS NOT OPERATING PER TH-DEP-10-3510-221-14.

MAINTENANCE WAS DEFERRED.

REVISION #1

DATE 11-28-90 HILES 748.40 HOURS 317.55

TO UPDATE THE NARRATIVE AND MAINTENANCE DATA.

26 NOV 1990, 1226 NST (OPSHRS 320:20/PRODHRS 271:48/GENHRS 331.2/ CYCLES 494/HILES 748.4).

THE TR-1 TIMER, LOCATED IN THE BOTTOM LEFT CORNER OF THE MAIN ELECTRICAL PANEL WAS DISCONNECTED AND REMOVED BY MAINTENANCE PERSONNEL.

A NEW TR-1 TIMER, SUPPLIED BY NRDEC WAS INSTALLED AND THE WIRES WERE RECONNECTED.

NO FURTHER ACTION WAS REQUIRED AT THIS TIME.

29 NOV 1990, 0833 NST (OPSHRS 323:12/PRODHRS 273:43/GENHRS 334.2/ CYCLES 494/HILES 748.4).

DURING UNSCHEDULED MAINTENANCE SMOKE WAS OBSERVED EMITTING FROM THE LOWER CORNER OF THE MAIN ELECTRICAL CONTROL BOX. APPROXIMATELY 5 SECONDS LATER THE SYSTEM SHUT ITSELF DOWN. THE MAINTENANCE PERSONNEL TURNED OFF THE MAIN CIRCUIT BREAKER AND OPENED THE MAIN ELECTRICAL CONTROL BOX FOR INSPECTION.

MAINTENANCE PERSONNEL INSPECTED THE ELECTRICAL CIRCUIT AND INDICATOR PANEL IN AN ATTEMPT TO LOCATE ANY WIRING THAT MAY HAVE BURNED. FURTHER INVESTIGATION REVEALED THAT THE SMOKE HAD COME FROM THE AREA AROUND THE TR-1 TIMER AND RELAY. A CIRCUIT BREAKER AT THE TOP LEFT CORNER WAS TRIPPED. THE CIRCUIT BREAKER WAS SWITCHED TO THE ON POSITION AND THE SYSTEM WAS POWERED UP. MAINTENANCE PERSONNEL BEGAN TROUBLESHOOTING THE TR-1 TIMER AND TR-1 RELAY USING A MULTIMETER. IT WAS DETERMINED THAT THE TR-1 RELAY HAD FAILED.

MAINTENANCE PERSONNEL REMOVED THE TR-1 TIMER AND WIRING FROM THE RELAY. THE TR-1 RELAY WAS REMOVED. A NEW TR-1 RELAY WAS INSTALLED AND THE WIRING RECONNECTED. THE TR-1 TIMER WAS REINSTALLED.

THE SYSTEM WAS POWERED UP AND OPERATED. NO FURTHER ACTION WAS TAKEN OR REQUIRED.

BLOCK#
33

FROM
OPERATED

TO
MAINTAINED

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 141

PROJECT NUMBER
9-IS-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LAD001

57	INSPECTED	REPLACED
63	WHEN REPAIRED 0.0	323.12
64	WHEN REPAIRED 0.0	373.43
65	WHEN REPAIRED 0.0	334.20
90	AS IS	ADD NEW NARRATIVE
MAINT BREAKDOWN	AS IS	ADD NEW MAINT BREAKDOWN
PARTS	BLANK	ADD PARTS REPLACED

REVISION #2 DATE 01/19/91 MILES 748.40 HOURS 317.55
TO CORRECT WHEN REPAIRED OPSHRS.

BLOCK #	FROM	TO
63 WHEN REPAIRED	232.12	323.12

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901116

SCORING INFORMATION

TIRM: L5-A000143 03

INC CLASS: MINOR

ACTION-TAKEN: REPAIRED

PART NAME: THERMOSTATIC EXPANSIO

FCC: 0400

OPSHRS 333.5

PRODHR 285.5

GENHRS 467.7

STEP
03- (C)CLASS
OMF/UHACHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW		00:02	00:02
CHA UNS	ORG	ORG	ORG		12:05	16:48

DESCRIPTION OF INCIDENT

THE REFRIGERATION DRY UNIT WAS DISCOVERED TO BE INOPERATIVE.

DURING CYCLE #488 THE OPERATOR OBSERVED THAT THE COMPRESSOR FOR THE REFRIGERATION DRY UNIT DID NOT ACTIVATE AT THE BEGINNING OF THE DRY MODE. THE OPERATOR TURNED ON THE ELECTRIC DRYING HEATER AND CONTINUED OPERATIONS.

AFTER COMPLETION OF CYCLE #494 MAINTENANCE PERSONNEL BEGAN TROUBLESHOOTING THE REFRIGERATION UNIT. MAINTENANCE PERSONNEL HOOKED UP PRESSURE GAUGES TO THE COMPRESSOR AND VISUALLY INSPECTED THE REFRIGERATION DRY UNIT. AFTER TROUBLESHOOTING (TESTING), IT WAS THE OPINION OF MAINTENANCE PERSONNEL THAT THE PROBABLE CAUSE FOR THE REFRIGERATION DRY UNIT BEING INOPERATIVE WAS

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SUPPORTABILITY ANALYSIS CHART

PAGE: 142

PROJECT NUMBER
8-ES-113-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

LINT BUILDUP ON THE COILS OF THE CONDENSER. MAINTENANCE PERSONNEL RECOMMENDED THAT THE REFRIGERATION DRY UNIT NOT BE USED UNTIL FURTHER INSPECTION OF THE CONDENSER COILS HAS BEEN CONDUCTED. THE ELECTRIC DRYING HEATER COULD BE USED TO CONDUCT FURTHER OPERATIONS. MAINTENANCE WAS DEFERRED.

REVISION #1

DATED 1-8-91 NILES 748.40 HOURS 329.28 TIME 0801 NST

TO UPDATE MAINTENANCE DATA AND THE NARRATIVE

26 NOV 1990, 0935 NST (OPSHRS 320:20/PRODHRS 271:48/GENHRS 341.2/
CYCLES 494/NILES 748.4)

MAINTENANCE PERSONNEL DISCONNECTED THE DUCTWORK BY REMOVING THE 24 MOUNTING BOLTS AND 4 BRACKET RETAINING BOLTS. THE VENT LINES WERE DISCONNECTED AND THE DUCT WORK, UPPER AND LOWER GASKET WERE REMOVED.

THE CONDENSOR COILS WERE INSPECTED BY THE PROJECT ENGINEER AND MAINTENANCE PERSONNEL. IT WAS DETERMINED THAT THE SMALL AMOUNT OF LINT THAT HAD COLLECTED ON THE UPPER FRONT COIL COULD NOT HAVE CAUSED THE REFRIGERATION DRY UNIT'S LOW BACK PRESSURE INDICATION. AS PER THE PROJECT ENGINEER'S INSTRUCTIONS, THE COILS WERE CLEANED WITH A DRY SHOP RAG.

WHILE MAINTENANCE PERSONNEL WERE HANDLING THE DUCT WORK, A CRACK WAS DISCOVERED AT THE CONNECTION OF THE VENT PIPING AND THE DUCT WORK. THE DISCREPANCY WAS CORRECTED BY WELDING THE CRACK (REF TIR L5-A000144).

MAINTENANCE PERSONNEL DETERMINED THAT A NEW UPPER GASKET WAS REQUIRED DUE TO A PREVIOUS REPAIR (REF TIR L5-A000040). A NEW GASKET WAS MADE FROM STOCK GASKET MATERIAL SUPPLIED BY NRDEC.

THE ENTRANCES TO THE CONDENSER AND THE LINT FILTER HOUSING WERE COVERED TO PREVENT ANY DIRT OR MOISTURE FROM ENTERING THE SYSTEM.

27 NOV 1990, 0807 NST (OPSHRS 320:20/PRODHRS 271.48/GENHRS 341.2/
CYCLES 494/NILES 478.4)

THE DUCT WORK WAS REINSTALLED WITH THE ORIGINAL LOWER GASKETS AND A NEW UPPER GASKET. TWENTY-FOUR NEW MOUNTING BOLTS AND NUTS WERE INSTALLED. THE FOUR BRACKET RETAINING BOLTS WERE INSTALLED. THE MOUNTING BOLTS AND RETAINING BOLTS WERE TIGHTENED.

MAINTENANCE WAS DEFERRED UNTIL THE REFRIGERATION MAINTENANCE PERSONNEL COULD TROUBLESHOOT THE REFRIGERATION SYSTEM.

29 NOV 1990, 0800 NST (OPSHRS 322:03/PRODHRS 273:31/GENHRS 343.0/
CYCLES 494/NILES 748.4)

MAINTENANCE PERSONNEL CONNECTED THE REFRIGERATION SERVICE GAUGES TO THE REFRIGERATION DRY UNIT. THE SYSTEM WAS OPERATED IN THE DRY MODE, ALLOWING THE MAINTENANCE PERSONNEL TO SERVICE AND TROUBLESHOOT THE REFRIGERATION DRY UNIT. A WASH AND RINSE CYCLE WAS COMPLETED IN AN ATTEMPT TO EMPTY THE BOTTOM TRAP OF SOLVENT. THE ELECTRIC DRY HEATER WAS USED TO INCREASE THE

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SUPPORTABILITY ANALYSIS CHART

PAGE: 143

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DRUM TEMPERATURE. THE REFRIGERATION MAINTENANCE PERSONNEL REINSPECTED THE REFRIGERATION SYSTEM FOR LEAKS.

THE REFRIGERATION MAINTENANCE PERSONNEL COULD NOT DETERMINE THE CAUSE OF THE LOW PRESSURE INDICATIONS OF THE REFRIGERATION DRY UNIT. IT WAS SUGGESTED BY THE REFRIGERATION MAINTENANCE PERSONNEL THAT A HIGHER ECHELON OF MAINTENANCE BE UTILIZED TO CONTINUE TROUBLESHOOTING.

4 DEC 1990, 1018 NST (OPSHRS 327:04/PRODHRS 277:10/GENHRS 374.8/
CYCLES 484/MILES 748.4)

THE MATICK RESEARCH, DEVELOPMENT AND EVALUATION CENTER (MRDEC) REPRESENTATIVE CONNECTED REFRIGERATION SERVICE GAUGES TO THE REFRIGERATION DRY UNIT. THE LADD SYSTEM WAS OPERATED IN THE DRY MODE OF OPERATION TO ALLOW THE MRDEC REPRESENTATIVE TO MONITOR THE REFRIGERATION PRESSURE DURING TROUBLESHOOTING.

THE MRDEC REPRESENTATIVE BEGAN TROUBLESHOOTING THE SYSTEM BY REMOVING THE EIGHT MOUNTING BOLTS, DUCT WORK AND BLOWER HOSE THAT CONNECTS THE BLOWER ASSEMBLY TO THE WASH DRUM. APPROXIMATELY 1 GALLON OF SOLVENT WAS DRAINED FROM THE CONTROL TRAP ASSEMBLY, ENSURING THAT THE SOLVENT WAS NOT CAUSING AN AIR FLOW RESTRICTION. THE MRDEC REPRESENTATIVE CHECKED THE AIR FLOW FROM THE BLOWER BY PLACING HIS HAND IN FRONT OF THE BLOWER EXIT PORT. THERE WAS AIR EMITTING BUT IT COULD NOT BE DETERMINED IF THE AIR FLOW WAS SUFFICIENT. THE COVER TO THE WASH DRUM DOOR LATCH WAS REMOVED TO BYPASS THE ELECTRIC LIMIT SWITCH ALLOWING THE SYSTEM TO OPERATE WHILE THE WASH DRUM DOOR WAS OPEN. THE AIR FLOW ENTERING THE DRUM WAS CHECKED. THERE WAS AIR FLOW BUT IT COULD NOT BE DETERMINED IF THE AIR FLOW WAS SUFFICIENT. THE BOTTOM BLOWER HOSE WAS CHECKED ENSURING THAT THERE WAS AIR FLOW EMITTING FROM THE WASH DRUM.

THE MRDEC REPRESENTATIVE SECURED CARDBOARD TO THE PROTECTIVE MESH SCREEN OF THE REFRIGERATION DRY UNIT'S COILS. THIS WAS DONE TO MONITOR THE EFFECTS OF THE WIND AND COOL TEMPERATURES ON STILL OPERATIONS.

THE BLOWER HOSE WAS REINSTALLED. THE AIR FLOW FROM THE BLOWER EXIT PORT WAS CHECKED WITH NO CHANGE FROM THE PREVIOUS CHECK. THE UPPER BLOWER HOSE AND BLOWER DUCT WORK WERE REINSTALLED. THE COVER TO THE DRUM DOOR LATCH WAS REINSTALLED.

THE MAINTENANCE PERSONNEL REPLACED THE THERMOSTATIC EXPANSION VALVE (TX VALVE).

THE FREON 12 WAS BLED FROM THE REFRIGERATION DRY UNIT TO PREPARE FOR THE TX VALVE REMOVAL. THE TWO MOUNTING BOLTS AND THE TX VALVE WERE REMOVED. A NEW TX VALVE WAS INSTALLED (P/N HFE-4-C). THE REFRIGERATION UNIT WAS SERVICED WITH FREON 12 TO ENSURE THAT THE SYSTEM WAS PRESSURIZED OVERNIGHT.

5 DEC 1990, 0801 NST (OPSHRS 329:28/PRODHRS 279:33/GENHRS 350.2/
CYCLES 494/MILES 748.4)

THE PRESSURE WITHIN THE REFRIGERATION DRY UNIT WAS RELEASED. THE UNIT WAS SERVICED THROUGH THE SERVICING GAUGES. AN EVACUATION PUMP WAS CONNECTED

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SUPPORTABILITY ANALYSIS CHART

PAGE: 144

PROJECT NUMBER
8-ES-113-LAD-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

TO EVACUATE THE REFRIGERATION DRY UNIT OF ANY MOISTURE. ONCE THE EVACUATION PROCESS WAS COMPLETE, THE EVACUATION PUMP WAS DISCONNECTED. THE REFRIGERATION DRY UNIT WAS SERVICED WITH FREON 12.

DURING OPERATIONS THE REFRIGERATION DRY UNIT WAS MONITORED BY MAINTENANCE PERSONNEL. AFTER 14 COMPLETE CYCLES IT WAS DETERMINED THAT THE PROBABLE CAUSE FOR THE REFRIGERATION DRY UNIT'S LOW PRESSURE INDICATION WAS DUE TO THE COLD WIND HITTING THE COILS OF THE REFRIGERATION DRY UNIT.

IT WAS DETERMINED BY THE PROJECT ENGINEER AND THE MRDEC REPRESENTATIVE THAT THE OPERATORS WOULD UTILIZE A SECTION OF CARDBOARD TO COVER THE COILS OF THE REFRIGERATION DRY UNIT ON COLD WINDY DAYS OF OPERATION.

BLOCK#	FROM	TO
49	NOT APPLICABLE	WELD FOR FAILURE ANALYSIS
50	REFRIGERATION DRY UNIT	THERMOSTATIC EXPANSION VALVE
54	UNKNOWN	RFE-4-C
57	TROUBLESHOOTING	REPAIRED
63	PART LIFE 0.0	285:15
64	PART LIFE 0.0	251:21
65	PART LIFE 0.0	307.9
63	WHEN REPAIRED 0.0	320:20
64	WHEN REPAIRED 0.0	271:48
65	WHEN REPAIRED 0.0	341.2

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901126

TIRN: 13-A000144 01

INC CLASS: MAJOR

ACTION-TAKEN: WELDED

PART NAME: CONTROL TRAP DUCT WORK

FGC: 0300

OPSHRS 320.3

PRODHR 271.5

GENHRS 341.2

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONF	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED PRESC RECON	ACTIVE
CHA UMS	ORG GS ORG	CLKHRS MANHRS 00:34 00:34

DESCRIPTION OF INCIDENT

A CRACK WAS DISCOVERED AT THE CONNECTION BETWEEN THE VENT PIPE AND DUCT.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 145

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

DURING UNSCHEDULED MAINTENANCE A CRACK WAS DISCOVERED BY MAINTENANCE PERSONNEL IN THE CONTROL TRAP DUCT. THE DUCT WORK HAD BEEN REMOVED PREVIOUSLY AND MAINTENANCE PERSONNEL BEGAN CLEANING IT WHEN THE CRACK WAS DISCOVERED. THE CRACK WAS LOCATED WHERE THE VENT PIPE WAS WELDED TO THE DUCT. THE CRACK IS APPROXIMATELY ONE INCH LONG ON THE TOP HALF OF THE CONNECTION. THE CONTROL TRAP DUCT WAS SENT TO THE WELDING SHOP FOR REPAIRS.

27 NOV 1990, 0730 NST (OPHRS 320:20/PRODHRS 271:48/GENHRS 341.2/CYCLES 494/RILES 748.4).

THE CONTROL TRAP DUCT WAS REPAIRED BY WELDING THE CRACK AT THE JOINT BETWEEN THE VENT PIPE AND THE DUCT WORK.

THE INSTALLATION AND REMOVAL MAINTENANCE TIME WAS CHARGED TO A PREVIOUS MAINTENANCE ACTION.

THE REPAIR WAS PERFORMED AT THE ORGANIZATIONAL LEVEL DUE TO THE AVAILABILITY OF THE ORGANIZATIONAL WELDING FACILITY AT YPG AS DIRECTED BY THE PROJECT ENGINEER.

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901127

TIRN: LS-A000145 02

INC CLASS: MAJOR

ACTION-TAKEN: INSPECTED

PART NAME: STILL READY INDICATOR

FGC: 0200

OPSHRS 320.2

PRODHR 271.5

GENHRS 341.2

SCORING INFORMATION

STEP	CLASS	CHARGE
03- (C)	ONF/UNA	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	NAMHRS
CHA UNS	CREW	CREW	CREW	00:33	00:33
CHA UNS	ORG	ORG	CS	10:51	11:41

DESCRIPTION OF INCIDENT

THE STILL READY INDICATOR WOULD NOT LIGHT.

AFTER AN HOUR AND TEN MINUTES THE STILL READY INDICATOR LIGHT FAILED TO STAY ON. THE STILL TEMPERATURE NEVER PASSED 102 DEGREES. THE STILL TEMPERATURE DROPPED TO 90 DEGREES CAUSING THE STILL PREHEATER TO ACTIVATE THREE TIMES. THE FOLLOWING DATA WAS COLLECTED AFTER THE THIRD PREHEATER ACTIVATION.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 146

PROJECT NUMBER
8-ES-115-LAB-003PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01

TIME	HIGH PRESSURE (PSI) FROM/TO	STILL TEMPERATURE DEG F.
1322	74 PSI/133 PSI	102 DEG. F.
1325	70 PSI/140 PSI	101 DEG. F.
1328	63 PSI/150 PSI	100 DEG. F.
1331	70 PSI/160 PSI	97 DEG. F.
1334	75 PSI/160 PSI	97 DEG. F.
1337	63 PSI/150 PSI	97 DEG. F.
1339	63 PSI/153 PSI	98 DEG. F.
1342	63 PSI/153 PSI	98 DEG. F.
1345	60 PSI/140 PSI	98 DEG. F.
1348	60 PSI/140 PSI	97 DEG. F.
1351	63 PSI/140 PSI	96 DEG. F.

THE STILL READY INDICATOR WOULD LIGHT AND STAY LIT UNTIL THE MAXIMUM PRESSURE WAS REACHED. WHEN THE INDICATOR WENT OUT THE PRESSURE WOULD DROP.

THE LADD SYSTEM IS SETTING IN A NORTH SOUTH POSITION WITH THE STILL PALLET ASSEMBLY ON THE NORTH WEST SIDE. THE FOLLOWING METEOROLOGICAL DATA WAS COLLECTED DURING THIS PERIOD OF OPERATION.

TIME	STATION PRESSURE	TEMP. DEG F.	R.H. %	B.P. %	WIND DIR	WIND SPD	PEAK SPD
1200	1009.4	59	17	14	N	9 MPH	16 MPH
1300	1008.8	61	16	14	N	9 MPH	18 MPH
1400	1007.8	61	16	14	N	10 MPH	19 MPH

REVISION 1

DATE 1-8-91 HILES 748.4 HOURS 338.02 TIME 0725 MST. TO UPDATE MAINTENANCE DATE AND THE NARRATIVE. BLOCK 90.

29 NOV 1990, 0810 MST (OPSHRS 322:03/PRODHRS 273:31/GENHRS 343.0/CYCLES 494/ HILES 748.4

MAINTENANCE PERSONNEL CONNECTED SERVICING GAUGES TO THE STILL REFRIGERATION SYSTEM. THE STILL WAS SERVICED WITH FREON 12 FOR APPROXIMATELY 2 HOURS. AFTER THAT TIME IT WAS DETERMINED THAT THE STILL WAS NOT SERVICING PROPERLY. THE CAUSE FOR THE STILL ASSEMBLY NOT BEING FUNCTIONAL WAS NOT DETERMINED.

04 DEC 1990, 0816 MST (OPSHRS 328:01/PRODHRS 275:26/GENHRS 346.0/CYCLES 494/ HILES 748.4).

THE MATICK RESEARCH, DEVELOPMENT AND EVALUATION CENTER REPRESENTATIVE BEGAN TROUBLESHOOTING THE STILL ASSEMBLY BY CONNECTING REFRIGERATION SERVICING GAUGES AND MONITORED THE STILL OPERATIONS. THE STILL COMPRESSOR WOULD OPERATE FOR APPROXIMATELY 10 SECONDS AND THEN SHUT DOWN. THE STILL

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 147

PROJECT NUMBER
0-ES-115-LAD-003

PROJECT NAME
DT II LABDS LAUNDRY/DRY CLEANER

ITEM ID
LAD001

HAS SERVICED WITH SOLVENT FROM THE DUMP TANK. THE MRDEC REPRESENTATIVE OBSERVED THAT THE STILL FILL LIGHT WOULD NOT GO OUT. IT WAS SUSPECTED THAT THE STILL FILL FLOAT SENSOR HAD FAILED.

THE STILL WAS DRAINED OF SOLVENT BY MAINTENANCE PERSONNEL. THE SERVICING LINES TO THE FLOW SWITCH WELL WERE DISCONNECTED TO DRAIN THE EXCESS SOLVENT IN ORDER TO INSPECT THE FLOAT SENSOR. THE FILL FLOAT AND THE BOILDOWN FLOAT SENSOR WERE DISCONNECTED. THE FILL FLOAT SENSOR WAS REMOVED AND INSPECTED. THE FILL FLOAT SENSOR WAS CHECKED WITH A MULTIMETER AND FOUND TO BE FUNCTIONAL. THE FLOW SWITCH HOUSING WAS FLUSHED WITH WATER TO CLEAN OUT ANY EXCESS LINT. THE FILL FLOAT SENSOR WAS REINSTALLED. THE FILL FLOAT, BOILDOWN FLOAT SENSORS AND SERVICE LINES WERE RECONNECTED.

THE STILL WAS SERVICED WITH SOLVENT FROM THE DUMP TANK. THE STILL FILL INDICATOR STAYED ILLUMINATED WHEN IT SHOULD HAVE COME OUT. THE MRDEC REPRESENTATIVE INSPECTED THE STILL CONTROL PANEL. DURING THIS INSPECTION HE FOUND WIRE #23 WAS LOOSE (REF IIR L3-A000146).

THE MRDEC REPRESENTATIVE CONTINUED TROUBLESHOOTING THE STILL BY BYPASSING THE SOLENOID VALVE AND CHECKING STILL OPERATIONS. THE SOLENOID VALVE WAS FOUND TO BE FUNCTIONAL. THE MRDEC REPRESENTATIVE CONTINUED HIS INSPECTION OF THE STILL ASSEMBLY.

THE STILL WAS SERVICED WITH FREON 12. THE SERVICE GAUGES INDICATED 13/175 PSI AND THE STILL TEMPERATURE WAS AT 112 DEGREES. THE MRDEC REPRESENTATIVE CONTINUED TROUBLESHOOTING BY COVERING THE STILL CONDENSING COILS WITH A SECTION OF CARDBOARD. THE PRESSURE AND TEMPERATURE STARTED TO RISE BUT DID NOT RISE HIGH ENOUGH. THE CARDBOARD WAS REMOVED TO OBSERVE THE RESULTS. THE PRESSURE AND TEMPERATURE WERE HOLDING AT 21/195 PSI.

03 DEC 1990, 0926 NST (OPSHRS 331:23/PRODHRS 279:33/GENHRS 352.2/CYCLES 494/HILES 748.4).

THE STILL WAS SERVICED WITH SOLVENT FROM THE DUMP TANK BECAUSE THE STILL HAD BOILED DOWN WELL BELOW THE FILL MARK. THE STILL READY INDICATOR STAYED ILLUMINATED AND THE STILL FILL INDICATOR NEVER ILLUMINATED. OPERATIONS CONTINUED FOR 35 MINUTES AND THE BOILDOWN WAS REPEATED. THE MRDEC REPRESENTATIVE DISCONNECTED THE STILL FLOW SWITCH HOUSING FROM THE STILL. THE STILL WAS DRAINED TO ACCESS THE LEVEL SENSORS. THE TOP AND BOTTOM SOLVENT LINES WERE DISCONNECTED TO DRAIN THE FLOW SWITCH HOUSING. THE STILL FILL SENSOR WAS REMOVED AND THE SOLVENT DRAINED FROM ITS PORT. THE HOUSING SHOULD BE EMPTY WHEN THE STILL FILL INDICATOR IS NOT ILLUMINATED. THE LOWER SOLVENT LINE ELBOW WAS INSPECTED AND FOUND TO BE CLOGGED WITH LINT. THE LINT WAS CLEANED OUT WITH A 6 INCH PIECE OF SILVER SOLDER. THE FLOW SWITCH HOUSING WAS FLUSHED USING SOLVENT AND BOTH UPPER AND LOWER SOLVENT LINES WERE CLEANED.

THE STILL LEVEL INDICATOR WAS DISASSEMBLED AND INSPECTED DUE TO THE LINT FOUND IN THE FLOW SWITCH HOUSING'S LOWER SOLVENT PORT. LINT WAS DISCOVERED IN THE UPPER LEVEL INDICATOR CONNECTOR AT THE STILL. THE CONNECTION WAS CLEANED WITH A 6 INCH PIECE OF SILVER SOLDER AND REASSEMBLED.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 148

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
BT II LAP'S LAUNDRY/DRY CLEANERITEM ID
LAD001

THE LADN SYSTEM HAS OPERATED FOR 9 CYCLES WITH NO DISCREPANCIES.

06 DEC 1990, 0725 NST (OPSHRS 338:02/PRODHRS 284:58/GENHRS 359.3/CYCLES 503/
MILES 748.4).

THE NRDEC REPRESENTATIVE REMOVED AND INSPECTED THE STILL FILTER TO ENSURE THAT IT WAS NOT CLOGGED WITH LINT. THE FILTER HAD NO LINT ACCUMULATION. THE FILTER WAS WASHED WITH WATER, DRYED WITH AIR PRESSURE AND REINSTALLED. THE STILL WAS SERVICED AND OPERATED WITH NO FURTHER INCIDENTS.

THE NRDEC REPRESENTATIVE DETERMINED THAT LINT BUILD UP AND THE COLD WIND BLOWING ACROSS THE STILL CONDENSING COILS WERE THE PROBABLE CAUSE OF THIS INCIDENT. IT WAS DETERMINED BY THE PROJECT ENGINEER AND THE NRDEC REPRESENTATIVE THAT THE OPERATORS SHOULD KEEP THE STILL CONDENSING COILS COVERED WITH CARDBOARD ON COLD AND WINDY PERIODS OF OPERATIONS.

BLOCK #	FROM	TO
01	CREW	ORGANIZATIONAL
02	CREW	ORGANIZATIONAL
03	CREW	GENERAL SUPPORT

REVISION 02/06/91 - SCORING CONFERENCE.

 INC-DATE: 901204
 TIRN: LS-A000146 01
 INC CLASS: MINOR
 ACTION-TAKEN: TIGHTENED
 PART NAME: ELECTRICAL WIRE #23
 FCC: 0200
 OPSHRS 326.6
 PRODHRS 276.6
 GENHRS 347.6

SCORING INFORMATION

STEP	CLASS	CHARGE
040 (C)	URA	HARDWARE/CPE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CNO UMS	ORG	ORG	GS	CLKHRS 00:03 HAMHRS 00:03

DESCRIPTION OF INCIDENT

THE ELECTRICAL WIRE #23 WAS DISCOVERED TO BE LOOSE.

DURING UNSCHEDULED MAINTENANCE THE NRDEC REPRESENTATIVE DISCOVERED THAT THE ELECTRICAL WIRE #23 WAS LOOSE AT THE TERMINAL STRIP LOCATED IN THE STILL CONTROL PANEL. THE NRDEC REPRESENTATIVE TIGHTENED WIRE #23 TO THE TERMINAL STRIP USING A JEWELER'S SCREWDRIVER.

NO FURTHER ACTION WAS TAKEN OR REQUIRED.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 149

PROJECT NUMBER
0-ES-115-LAD-003

PROJECT NAME
BT II LABDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

REVISION 02/06/91 - SCORING CONFERENCE.

INC-DATE: 901204

TIME: LS-0000147 01

INC CLASS: MINOR

ACTION-TAKEN: OTHER, SEE BLK 90

PART NAME: DRUM CAP SCREW

TCG: 1700

OPSHRS 327.3

PRODHRS 277.4

GENHRS 348.2

SCORING INFORMATION

STEP
04U (C)

CLASS
UMA

CHARGE
HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE
CHA UMS

USED PRESC RECON
ORG ORG ORS

ACTIVE
CLKHRS HANHRS
00:20 00:20

DESCRIPTION OF INCIDENT

TWO DRUM CAP SCREWS WERE DISCOVERED TO BE MISSING AND FOUR WERE LOOSE.

DURING UNSCHEDULED MAINTENANCE, MAINTENANCE PERSONNEL DISCOVERED THE #2 AND #3 (CLOCKWISE) DRUM CAP SCREWS WERE MISSING. THE REMAINING FOUR SCREWS WERE LOOSE. THE FOUR SCREWS WERE TIGHTENED. THE TWO MISSING SCREWS WERE FOUND IN THE LAUNDRY LOAD. THE TWO MISSING SCREWS WERE NOT REINSTALLED.

3 DEC 1990, 1247 HST (OPSHRS 332:52/PRODHRS 280:21/GENHRS 354.1)
MAINTENANCE PERSONNEL REINSTALLED THE TWO SCREWS IN THE DRUM CAP. BEFORE REINSTALLATION, LOCTITE WAS APPLIED TO THE SCREW THREADS. THE FOUR REMAINING SCREWS WERE REMOVED AND HAD LOCTITE APPLIED TO THE THREADS. THE FOUR SCREWS WERE REINSTALLED. ALL SIX SCREWS WERE TIGHTENED UTILIZING AN IMPACT DRIVER AND A HANNER.

NO FURTHER ACTION WAS TAKEN OR REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 150

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 901204

TIRN: L5-A000148 01

INC CLASS: MINOR

ACTION-TAKEN: REPAIRED

PART NAME: LOWER BLOWER HOSE

FCC: 0200

OPSHRS 327.4

PRODHR 277.4

GENHRS 348.3

SCORING INFORMATION

STEP	CLASS	CHARGE
040 (C)	UWA	HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE
CHA UMS	ORG	ORG	GS	CLKHRS HANHRS 01:09 01:48

DESCRIPTION OF INCIDENT

A CRIMP WAS DISCOVERED IN THE LOWER BLOWER HOSE.

DURING UNSCHEDULED MAINTENANCE THE MAINTENANCE PERSONNEL DISCOVERED A CRIMP IN THE LOWER BLOWER HOSE THAT CONNECTS THE WASH DRUM/BASKET ASSY. AND THE CONTROL TRAP ASSEMBLY. THE CRIMP IS LOCATED IN THE CENTER OF THE FOUR FOOT HOSE.

THE MAINTENANCE PERSONNEL REMOVED THE DRUM BELT GUARD TO ALLOW MAINTENANCE PERSONNEL TO ACCESS THE LOWER BLOWER HOSE RETAINING CLAMPS.

THE RETAINING CLAMPS OF THE LOWER BLOWER HOSE WERE LOOSEMED AND THE LOWER BLOWER HOSE WAS REMOVED. MAINTENANCE PERSONNEL INSPECTED THE BLOWER HOSE FOR OTHER DAMAGE.

MAINTENANCE PERSONNEL STRAIGHTENED THE HOSE STRIKING THE CRIMP WITH A WOODEN MALLET.

A 6-INCH WIDE SHEET METAL SLEEVE WAS MADE AND WRAPPED AROUND THE HOSE WHERE THE CRIMP WAS LOCATED. THE SHEET METAL SLEEVE WAS SECURED TO THE BLOWER HOSE BY 2 NONADJUSTABLE BANDS.

THE LOWER BLOWER HOSE WAS REINSTALLED BETWEEN THE DRUM ASSEMBLY AND THE CONTROL TRAP ASSEMBLY. TWO ADJUSTABLE RETAINING CLAMPS WERE REINSTALLED TO EACH END AND TIGHTENED.

NO FURTHER ACTION WAS TAKEN OR REQUIRED.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 151

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 901205
TIR#: L3-A000149 02
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: BAG FILTER
FCC: 1000
OPSHRS 338.0
PRODHR 284.6
GENHRS 359.3

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	UMA	MANUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UNS	CREW	CREW	CREW	00:01	00:01
CHA UNS	ORG	ORG	ORG	00:12	00:12

DESCRIPTION OF INCIDENT

BAG FILTER REQUIRED REPLACEMENT.

DURING CYCLE #503 IT WAS OBSERVED, BY THE OPERATOR THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 30 PSI AND THE LOWER BAG FILTER PRESSURE GAUGE INDICATED 20 PSI. THE 10 PSI DIFFERENCE INDICATED THAT THE BAG FILTER NEEDED TO BE CHANGED.

6 DEC 1990, 0716 NST (OPSHRS 338.02/PRODHR 284.58/GENHRS 359.3/CYCLES 503/MILES 748.4).

BEFORE OPERATIONS MAINTENANCE PERSONNEL REMOVED THE COVER AND "O" RING TO THE BAG FILTER COMPARTMENT. THE BAG FILTER WAS DRAINED AND REMOVED.

A NEW FILTER WAS INSTALLED AND THE "O" RING AND BAG FILTER ASSEMBLY COVER WAS REINSTALLED. THE BAG FILTER WAS FILLED THROUGH NORMAL OPERATIONS. NO FURTHER ACTION WAS TAKEN OR REQUIRED.

REVISED 03 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 132

PROJECT NUMBER
8-ES-115-LAD-003PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANERITEM ID
LADD01*****
INC-DATE: 901206

TIRN: LS-A000150 01

INC CLASS: MINOR

ACTION-TAKEN: REMOVED

PART NAME: REFRIGERATION UNIT

FGC: 0400

OPSHRS 339.2

PRODHR 283.3

GENHRS 360.6

SCORING INFORMATION

STEP
01F (C)CLASS
NOM-RANCHARGE
HARDWARE/CFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	HAMHRS
NOM UNS	CREW	CREW	CREW	00:01	00:01
NOM UNS	ORG	ORG	ORG	00:21	00:21

DESCRIPTION OF INCIDENT

REFRIGERATION DRY UNIT PRESSURE IS LOW.

DURING CYCLE #304 THE OPERATOR OBSERVED THAT THE REFRIGERATION DRY UNIT'S PRESSURE WAS LOW. THE REFRIGERATION GAUGES WERE CONNECTED TO THE SYSTEM BY THE NATICK RESEARCH DEVELOPMENT AND EVALUATION CENTER (NRDEC). THE NRDEC REPRESENTATIVE OBSERVED A PRESSURE OF 10 OVER 75 PSI.

THE NRDEC REPRESENTATIVE INSPECTED THE REFRIGERATION DRY UNIT'S COMPRESSOR. THE COMPRESSOR OPERATED FOR APPROXIMATELY 3 SEC AND STOPPED WHEN THE LOW PRESSURE GAUGE DROPPED FROM 19 PSI TO 8 PSI.

THE NRDEC REPRESENTATIVE SERVICED THE REFRIGERATION DRY UNIT WITH FREON-12. DURING THE SERVICING IT WAS DISCOVERED THAT THE REFRIGERATION GAUGES WERE LEAKING. SERVICING WAS CONTINUED.

THE REFRIGERATION GAUGES WERE REMOVED AFTER SERVICING WAS COMPLETED. OPERATIONS CONTINUED WITH A FULLY OPERATIONAL REFRIGERATION DRY UNIT.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 153

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LABS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 901211
TIRB: LS-A000151 02
INC CLASS: MINOR
ACTION-TAKEN: REPLACED
PART NAME: BAG FILTER
FCC: 1000
OPSHRS 371.3
PRODMR 313.1
GENHRS 392.8

SCORING INFORMATION

STEP	CLASS	CHARGE
04U (C)	URA	HANDUALS

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
CHA UMS	CREW	CREW	CREW	00:01	00:01
CHA UMS	ORG	ORG	ORG	00:08	00:08

DESCRIPTION OF INCIDENT

THE BAG FILTER PRESSURE GAUGE INDICATED THE BAG FILTER REQUIRED CHANGING.

DURING A VISUAL INSPECTION IT WAS DISCOVERED, BY THE OPERATOR THAT THE UPPER BAG FILTER PRESSURE GAUGE INDICATED 40 PSI AND THE LOWER PRESSURE GAUGE INDICATED 30 PSI. THE 10 PSI DIFFERENCE INDICATED THAT THE BAG FILTER REQUIRED CHANGING.

AFTER CYCLE 360, MAINTENANCE PERSONNEL DRAINED THE BAG FILTER. MAINTENANCE PERSONNEL REMOVED THE COVER TO THE BAG FILTER COMPARTMENT, REMOVED THE BAG FILTER AND INSTALLED A NEW ONE. MAINTENANCE PERSONNEL ATTEMPTED TO REINSTALL THE O-RING, AND IT WAS DISCOVERED THAT THE O-RING WOULD NOT FIT PROPERLY. INSPECTION OF THE O-RING, BY MAINTENANCE PERSONNEL REVEALED THAT THE O-RING WAS STRETCHED APPROXIMATELY 1 INCH. IT WAS DETERMINED THAT THE PROBABLE CAUSE WAS REPEATED USE. MAINTENANCE PERSONNEL INSTALLED A NEW O-RING AND THE FILTER COMPARTMENT COVER WAS REINSTALLED COMPLETING THIS MAINTENANCE ACTION.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

PAGE: 154

PROJECT NUMBER
0-ES-115-LAD-003

PROJECT NAME
BT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

INC-DATE: 901213

TIRW: L5-A000152 02

INC CLASS: INFORMATION

ACTION-TAKEN: INSPECTED

PART NAME: LADDS

FCC: 0000

OPSHRS 401.3

PRODHR 341.1

GENHRS 422.3

SCORING INFORMATION

STEP	CLASS	CHARGE
01A (C)	PRE TEST	HARDWARE/GFE

MAINTENANCE INFORMATION

CHAR TYPE	USED	PRESC	RECON	ACTIVE	
				CLKHRS	MANHRS
NON SCH	CREW	CREW	CREW	01:43	01:43
NON SCH	ORG	ORG	ORG	00:00	00:00

DESCRIPTION OF INCIDENT

A FINAL INSPECTION WAS CONDUCTED ON THE LADD SYSTEM.

AFTER COMPLETING 401:33 OPERATION HOURS OF OPERATION THE LADD SYSTEM WAS DRAINED OF ALL SOLVENT. THE BAG FILTER WAS REPLACED AS A PRECAUTIONARY MEASURE.

THE FOLLOWING DISCREPANCIES WERE NOTED BUT WERE NOT REPAIRED.

- 1) ONE SCREW (OF SIX) WAS MISSING FROM THE WASH DRUM CAP. THE SCREW COULD NOT BE FOUND.
- 2) RUST WAS DISCOVERED ON THE LEFT REAR, LEFT FRONT AND 3RD FROM THE REAR DRUM MOUNTING BOLTS.
- 3) RUST WAS DISCOVERED ON THE 4 TOP AND 4 BOTTOM ALLEN HEAD MOUNTING SCREW THAT MOUNTS THE MBC ABSORBER TO THE WASH DRUM.
- 4) PAINT CHIPS ON THE OUTER EDGE OF THE WASH DRUM DOOR WERE DISCOVERED.
- 5) ONE BOLT ON THE LINT FILTER BLOWER MOTOR PULLEY WHEEL WAS RUSTED BECAUSE IT WAS NEVER PAINTED.
- 6) THE DUCT WORK BETWEEN THE LINT TRAP AND THE CONDENSER HAD CHIPS OF PAINT MISSING.
- 7) THE DRUM AND BASKET FLYWHEEL HAD RUST ON THE OUTER EDGE OF THE WHEEL.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 155

PROJECT NUMBER
8-ES-115-LAB-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
LADD01

- 8) THE SOLVENT TANK'S BRACKETS THAT MOUNT TO THE TRAILER HAD RUST AROUND THE BOLT MOUNTING HOLES.
- 9) THE STILL ASSEMBLY HAD NUMEROUS PAINT CHIPS DUE TO THE STILL BEING MOVED FOR MAINTENANCE.
- 10) THE BAG FILTER COVER RETAINING BOLTS HAD RUST ON THE BOLT THREADS.
- 11) THE COMPRESSOR ASSY BOLTS LOCATED ON THE REAR OF THE COMPRESSOR ARE RUSTED.
- 12) THE DRY UNIT'S CONDENSING COIL SAFETY GUARD'S UPPER MOUNTING BOLT WAS BROKEN. THE UPPER BOLT WAS WELDED TO THE BAG FILTER ASSY.

A MONTHLY PHCS WAS CONDUCTED IAW THE DEP 10-3510-221-14 EXCEPT FOR THE FOLLOWING:

- 1) THE SOLVENT TANKS WERE NOT CLEANED BECAUSE THERE ARE NO SIGHT GLASS SEALS.
- 2) THE SOLVENT PUMP WAS NOT INSPECTED BECAUSE THE MANUAL DOES NOT SHOW WHERE THE SOLVENT PUMP IS LOCATED. THERE IS NO EXPLODED ILLUSTRATION OF THE SOLVENT PUMP.
- 3) IT WAS DETERMINED BY THE PROJECT ENGINEER THAT THE COALESCOR PADS DID NOT REQUIRE INSPECTION, BECAUSE THEY HAD BEEN INSPECTED AT 338 OPERATION HOURS.

REVISED 05 FEB 91 TO UPDATE PARTS.

REVISION 02/06/91 - SCORING CONFERENCE.

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SUPPORTABILITY ANALYSIS CHART

PAGE: 156

PROJECT NUMBER
8-ES-115-LAD-003

PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

PLAN ID
SSPLAD

INC-DATE: 901115

TIR#: LS-A000135 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: DEP-10-3510-221-14,MAN

FCC: 0000

OPSHRS 296.5

PRODHR 250.6

GENHRS 313.6

SCORING INFORMATION

STEP
01F (C)

CLASS
NON-RAN

CHARGE
MANUALS

MAINTENANCE INFORMATION

CHAR TYPE
NON SCH

USED PRESC RECON
CREW CREW CREW

ACTIVE
CLKHRS MANHRS
00:00 00:00

DESCRIPTION OF INCIDENT

TR-14, CHAPTER 1 DISCREPANCIES.

THE FOLLOWING ARE TR DISCREPANCIES NOTED WITH SUGGESTED CHANGES TO
CHAPTER ONE OF DEP-10-3510-221-14:

SECTION 3, PARA 1-10-C, PAGE 1-12

THE LAST SENTENCE OF THE TOP PARAGRAPH SHOULD READ: "WHEN THE LAUNDRY
CARD (CONVECTIONAL OR NBC) DESIRED, IS INSERTED IN THE CARD READER AND THE
START BUTTON IS PRESSED, THE LAUNDRY UNIT WILL START CLEANING THE CLOTHES
AND CONTINUE UNTIL THE CYCLE RUN INDICATOR LIGHT GOES OUT.

THE REASON FOR THIS CORRECTION IS DUE TO THIS SENTENCE NOT STATING HOW
THE OPERATOR DETERMINES THAT THE SYSTEM IS ACTUALLY COMPLETE AND NOT IN
PAUSE BETWEEN CYCLE ROTATIONS.

SECTION 3, PARA 1-10-D, PAGE 1-16

THE NOTE TO THE LAST SENTENCE OF THE SECOND PARAGRAPH SHOULD READ:
"THE DRY CYCLE CONCLUDES WHEN THE COOL DOWN AND DRY CYCLE INDICATORS GO OUT.

THE REASON FOR THIS CORRECTION IS DUE TO THE LADDS PAUSES BETWEEN
CYCLES AND COULD BE OBSERVED, BY THE OPERATOR AS BEING COMPLETE. THE
INDICATORS ARE THE FINAL INDICATION THAT THE CYCLE IS COMPLETE.

REVISION 02/06/91 - SCORING CONFERENCE.

TUE, MAR 12, 1991

SUPPORTABILITY ANALYSIS CHART

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PROJECT NUMBER
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PROJECT NAME
DT II LADDS LAUNDRY/DRY CLEANER

ITEM ID
SSPLAD

INC-DATE: 901114

TIRM: L5-A000136 01

INC CLASS: INFORMATION

ACTION-TAKEN: NO ACTION TAKEN

PART NAME: DEP-10 3510-221-14,MAN

FGC: 0000

OPSHRS 296.5

PROGHR 250.6

GENHRS 313.6

SCORING INFORMATION

STEP
01F (C)

CLASS
NON-RAN

CHARGE
MANUALS

MAINTENANCE INFORMATION

CHAR TYPE
NON UNS

USED PRESC RECON
CREW CREW CREW

ACTIVE
CLKHRS MANHRS
00:00 00:00

DESCRIPTION OF INCIDENT

TH-14, CHAPTER 2 DISCREPANCIES.

THE FOLLOWING DISCREPANCIES WITH THE TECHNICAL MANUAL (TM) WERE NOTED WITH SUGGESTED CHANGES TO CHAPTER TWO OF DEP-10-3510-221-14:

SECTION 1, PARA 2-2-C, FIG 2-1, ITEM 3, PAGE 2-3

ITEM #3 HAS THE ARROW POINTING TO THE LOWER LEFT CORNER OF THE CARD READER AS SHOWN. THE ARROW POINTING TO THE TOP RIGHT CORNER SHOULD BE DELETED.

THE REASON FOR THIS CHANGE IS DUE TO THE ITEM THAT THE TOP ARROW IS POINTING TO IS THE "CYCLE HOLD" KNOB, WHICH HAS NOTHING TO DO WITH THE ADVANCE OF THE CYCLE. THE "CYCLE HOLD" KNOB CAUSES THE CYCLE TO PAUSE WHEN PULLED.

SECTION 1, PARA 2-2-C, FIG 2-1, ITEM 6, PAGE 2-3

THE EMERGENCY STOP SWITCH SHOULD BE ILLUSTRATED IN THE FIGURE. IT IS LOCATED DIRECTLY BELOW THE COOL DOWN CYCLE INDICATOR AND DIRECTLY TO THE LEFT OF THE SYSTEM CONTROL POWER SWITCH. ITEM #6 SHOULD HAVE AN ARROW POINTING TO THE EMERGENCY STOP SWITCH.

THE REASON FOR THIS CHANGE IS DUE TO THE EMERGENCY STOP SWITCH NOT BEING ILLUSTRATED IN FIGURE 2-1.

SECTION 1, PARA 2-2-C, FIG 2-1, PAGE 2-3

THE "CYCLE RUN" BUTTON SHOULD BE ILLUSTRATED AS A SEPARATE ITEM FROM ITS INDICATOR AND BE GIVEN A SEPARATE NUMBER DESIGNATION.

THE "VENT" BUTTON SHOULD BE ILLUSTRATED AS A SEPARATE ITEM FROM ITS INDICATOR, AND SHOULD BE GIVEN A SEPARATE NUMBER DESIGNATION.

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THE "DRY HEATER" SWITCH SHOULD BE ILLUSTRATED AS A SEPARATE ITEM FROM ITS INDICATOR AND BE GIVEN A SEPARATE NUMBER DESIGNATION.

THE REASON FOR THESE CHANGES ARE THAT THE ILLUSTRATION DOES NOT INDICATE WHICH ITEMS ARE SWITCHES OR BUTTONS AND WHICH ARE INDICATORS.

SECTION 1, PARA 2-2-C, FIG 2-1, PAGE 2-3

THE ILLUSTRATION FOR FIGURE 2-1 (SHEET 1 OF 2) SHOULD BE A SEPARATE FIGURE FROM FIGURE 2-1 (SHEET 2 OF 2).

THE REASON FOR THIS CHANGE IS DUE TO A NEED TO DIVIDE THE ELECTRICAL PANEL ASSEMBLY INTO TWO SEPARATE FIGURES. THE MAIN CONTROL PANEL AND INDICATORS. FIG. 2-1 (SHEET 1 OF 2) IS THE ONLY CONTROL AND INDICATOR PANEL. FIG 2-1 (SHEET 2 OF 2) IS THE ELECTRICAL CIRCUIT AND INDICATOR PANEL.

SECTION 1, PARA 2-2-C, PAGE 2-5.

THE FUNCTION/USE OF KEY #8 SHOULD READ: "WHEN PUSHED", WILL CONTINUE TO RELEASE INTERNAL SYSTEM PRESSURE (IN DRUM) TO EQUALIZE WITH ATMOSPHERIC PRESSURE UNTIL THE BUTTON IS RELEASED.

THE REASON FOR THIS CHANGE IS DUE TO THE OPERATOR'S NEED TO CONTINUE HOLDING THE BUTTON DOWN UNTIL THE PRESSURE EQUALIZES.

SECTION 1, PARA 2-2-C, PAGE 2-6

THE FUNCTION/USE OF KEY #16 SHOULD READ: "INDICATES THE SYSTEM IS IN THE RINSE MODE DURING CYCLE RUN".

THE REASON FOR THIS CHANGE IS THE WORD "(MODE)" IS OUT OF PLACE IN THIS SENTENCE.

SECTION 1, PARA 2-2-C, PAGE 2-1, PAGE 2-8

KEYS 43, 44 AND 45 SHOULD HAVE THE "(NOT USED)" REMOVED FROM THE FUNCTION/USE OF TR8, TR9 AND TR10.

THE REASON FOR THE CHANGE OF KEYS 43, 44 AND 45 IS DUE TO THE SCHEMATICS INDICATING THAT TR8, TR9 AND TR10 ARE ELECTRICALLY USED (REF. FO-01).

SECTION 1, PARA 2-2-C, FIG 2-2, PAGE 2-9

FIGURE 2-2 SHOULD BE SEPARATED FROM THE KEY INDICATORS OF FIGURE 2-1. FIGURE 2-2 SHOULD BE ENLARGED FOR CLARITY AND HAVE ITS OWN PAGE.

THE REASON FOR THIS CHANGE IS DUE TO THE CONFUSION BETWEEN FIGURE 2-1 KEYS, CONTROLS AND INDICATORS WITH FIG. 2-2'S ILLUSTRATION AND ITEM NUMBERS.

SECTION 1, PARA 2-2-C, FIG 2-3, PAGE 2-11

THE CONTROL OR INDICATOR FOR ITEM #1, ON THIS ILLUSTRATION SHOULD HAVE THE ARROW POINTING TO THE TOP RIGHT CORNER, INDICATING THE LOCATION OF THE SIGHT GLASS. THE OTHER ARROW SHOULD BE DELETED.

THE REASON FOR THIS CHANGE IS THAT THE SIGHT GLASS, FOR THE DRYING LOOP AND CONTROLS ARE ILLUSTRATED IN THE WRONG LOCATION. THE SIGHT GLASS IS

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LOCATED TO THE REAR OF THE REFRIGERATION UNIT'S COMPRESSOR.

SECTION 1, PARA 2-2-C, FIG 2-3, PAGE 2-11

THE ILLUSTRATION AND CONTROL OR INDICATOR SHOULD BE CHANGED TO REFLECT THE LOCATION AND FUNCTION/USE OF THE HIGH PRESSURE SWITCH CONTROL BOX AND THE LOW PRESSURE SWITCH CONTROL BOX. THESE CONTROL BOXES ARE LOCATED TO THE REAR OF THE REFRIGERATION UNIT'S COMPRESSOR.

THE REASON FOR CHANGE IS BECAUSE FIG. 2-3 FAILS TO MENTION OR ILLUSTRATE THE LOCATION OF THE HIGH AND LOW PRESSURE SWITCH CONTROL BOXES. BOTH BOXES ARE LOCATED NEXT TO EACH OTHER, BEHIND THE REFRIGERATION UNIT'S COMPRESSOR.

SECTION 1, PARA 2-2-C, FIG. 2-4, PAGE 2-12

THE ILLUSTRATION OF FIG. 2-4 SHOULD BE CHANGED TO REFLECT ITEM #6 AS THE TEMPERATURE CONTROL BOX WITH ARROWS POINTING TO BOTH OF THEM. THE ONE INDICATED AND ENLARGED IS IN THE CORRECT LOCATION. THE SECOND TEMPERATURE CONTROL BOX IS LOCATED IN THE BOTTOM RIGHT CORNER OF THE DUMP TANK. THESE TWO BOXES SHOULD BE NUMBERED 6A AND 6B.

THE TEMPERATURE CONTROL KNOB SHOULD BE ILLUSTRATED AS IT IS IN THE EXPLODED VIEW.

THE REASON FOR THIS CHANGE IS BECAUSE THE TEMPERATURE CONTROL BOXES ARE NOT IDENTIFIED. THERE ARE TWO CONTROL BOXES AND EACH HAS A TEMPERATURE CONTROL KNOB. FOR ITEM #6 FUNCTION/USE SHOULD READ THERMOSTAT CONTROL HOUSING.

SECTION 1, PARA 2-2-C, FIG 2-7, PAGE 2-15

THE FRONT VIEW AND THE LEFT SIDE VIEW NEED TO BE REVERSED.

THE REASON FOR THIS CHANGE IS THAT THE TONGUE OF THE TRAILER IS CONSIDERED THE FRONT OF THE SYSTEM. THE STILL ELECTRICAL PANEL FACES TOWARD THE TONGUE OF THE TRAILER.

SECTION 1, PARA 2-2-C, FIG. 2-8, PAGE 2-18

THIS ILLUSTRATION SHOULD BE REDRAWN INDICATING THE POSITION OF THE NEW PNEUMATIC PUMP AND THE NEW LOCATION OF THE RESERVOIR TANK.

THE REASON FOR THIS CHANGE IS THAT THE LOCATION OF THE NEW PNEUMATIC PUMP AND THE RESERVOIR TANK HAVE BEEN RELOCATED. THE RESERVOIR IS LOCATED NEXT TO THE PNEUMATIC PUMP DIRECTLY UNDER THE DRUM AND BASKET ASSEMBLY.

SECTION 2, PARA 2-3, TABLE 2-1, PAGE 2-27

THE "ITEM TO BE INSPECTED/PROCEDURE" FOR ITEM 1e(1) SHOULD READ "WASH TANK TEMPERATURE GAUGE NORMAL INDICATION 90 DEGREES F (32 DEGREES C).

THE REASON FOR THIS CHANGE IS PER THE N.R.D.E.C. REPRESENTATIVE'S INSTRUCTIONS THAT THE TEMPERATURE OF 60 DEGREES F IS INCORRECT, AND THAT 90 DEGREES F IS CORRECT.

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SECTION 2, PARA 2-5, TABLE 2-1, PAGE 2-27

THE "EQUIPMENT IS NOT READY/AVAILABLE IF" FOR; 1e(1) SHOULD READ "TEMPERATURE BELOW 90 DEGREES F (32 DEGREES C)".

THE REASON FOR THIS CHANGE IS PER THE N.R.D.E.C. REPRESENTATIVE'S INSTRUCTIONS THAT THE TEMPERATURE OF 60 DEGREES F IS INCORRECT AND THAT 90 DEGREES F IS CORRECT.

SECTION 2, PARA 2-5, TABLE 2-1, PAGE 2-27

THE "EQUIPMENT IS NOT READY/AVAILABLE IF" FOR; 1e(1) SHOULD READ "TEMPERATURE BELOW 90 DEGREES F (32 DEGREES C)".

THE REASON FOR THIS CHANGE IS PER THE N.R.D.E.C. REPRESENTATIVE'S INSTRUCTIONS THAT THE TEMPERATURE OF 60 DEGREES F IS INCORRECT AND THAT 90 DEGREES F IS CORRECT.

THE FOLLOWING ARE THE DISCREPANCIES NOTED WITH SUGGESTED CHANGES TO CHAPTER 2 OF DEB-10-3510-221-14. THIS TIR IS A CONTINUATION OF TIR L5-A000134:

SECTION 2, PARA 2-5, TABLE 2-1, PAGE 2-28

THE "ITEM TO BE INSPECTED/PROCEDURE" FOR ITEM 4-c SHOULD STATE "CHECK SIGHT GLASS FOR INDICATION OF REFRIGERATION CHARGE". THE STATEMENT FOR THE "EQUIPMENT IS NOT READY/AVAILABLE IF" "NO INDICATION OF CHARGE". INSTEAD OF NO INDICATION OF CHARGE.

THE REASON FOR THE CHANGE IS TO STAY CONSISTENT WITH THE SIGHT GLASS CHECK PROCEDURE OF ITEM 2-E.

SECTION 2, PARA 2-5, TABLE 2-1, PAGE 2-29

THE "ITEM TO BE INSPECTED/PROCEDURE" FOR THE DRUM AND BASKET ASSEMBLY, ITEM C-(1) STATES "THAT THE TEMPERATURE GAUGE NORMAL INDICATION IS 140 DEGREES" SHOULD BE CORRECTED.

THE REASON FOR THIS CORRECTION IS THAT THE MAXIMUM TEMPERATURE OF THIS GAUGE IS 140 DEGREES F. THERE IS NO ESTABLISHED NORMAL DRUM AND BASKET TEMPERATURE.

SECTION 2, PARA 2-5, TABLE 2-1, PAGE 2-30

THE BAG FILTER ASSEMBLY "ITEM TO BE INSPECTED/PROCEDURE" NEEDS TO BE CHANGED TO "REPLACE THE BAG FILTER".

THE REASON FOR THIS CHANGE IS BECAUSE THERE ARE NO INSTRUCTIONS FOR CLEANING THE CONTAMINATED BAG FILTER. THE MANUAL, CHAPTER 2, PARA 2-83 PAGE 4-167 GIVES THE PROCEDURE FOR THE BAG FILTER REPLACEMENT.

SECTION 2, PARA 2-5, TABLE 2-1, PAGE 2-30

WITHIN ITEM 10 THERE SHOULD BE A PROCEDURE ESTABLISHED TO ALLOW THE OPERATOR TO DRAIN EXCESS MOISTURE FROM THE PNEUMATIC RESERVOIR. IT IS SUGGESTED THAT THE INSPECTION INTERVAL BE BEFORE, DURING, AND AFTER OPERA-

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TIONS.

THE REASON FOR THIS CHANGE IS THAT THE PNEUMATIC SYSTEM REQUIRES THE EVACUATION OF MOISTURE TO PROLONG THE LIFE OF THE SYSTEM.

SECTION 3, PARA 2-6, PAGE 2-32

THIS CAUTION SHOULD HAVE THE WORDS "AND LOCKED IN PLACE" INSERTED AFTER THE WORD "LOWERED".

THE REASON FOR THIS IS BECAUSE THE LEGS SWING TOWARD THE REAR OF THE TRAILER AND MIGHT NOT HOLD THE HEIGHT IF THE TRAILER IS MOVED FORWARD. FORWARD MOVEMENT OF THE TRAILER COULD CAUSE THE UNLOCKED LEGS TO SWING BACKWARDS, CAUSING THE FRONT OF THE TRAILER TO FALL.

SECTION 3, PARA 2-6-A, PAGE 2-32

THE PROCEDURE FOR "LOCATING THE TRAILER" SHOULD READ "THE SYSTEM IS TONED TO A LEVEL LOCATION BY A 5-TON (OR GREATER) CARGO VEHICLE. BEFORE ATTEMPTING TO DISENGAGE THE TRAILER FROM THE VEHICLE, THE TRAILER'S HAND BRAKE MUST BE APPLIED, THE WHEELS CHALKED AND THE LEVELING JACKS LOWERED AND LOCKED INTO PLACE. THE AIR LINES ARE TO BE DISCONNECTED AND THE LUNETTE IS RAISED FROM THE VEHICLE AND THE VEHICLE IS REMOVED. THE REAR LEGS ARE THEN LOWERED AND LOCKED IN PLACE.

THE TRAILER IS LEVELED BY CHECKING THE LEVELING BUBBLES LOCATED ON EACH CORNER OF THE TRAILER.

THE REASON FOR THIS CHANGE IS BECAUSE GOOD SAFETY PROCEDURES SHOULD BE UTILIZED BY CHALKING THE WHEELS AND LOCKING THE LEVELING JACKS IN PLACE WHEN LOWERED.

SECTION 3, PARA 2-6.(3)-(D), PAGE 2-34

THE FIGURE REFERENCE, (FIGURE 2-10 BELOW) SHOULD READ (FIGURE 2-10).

THE REASON FOR THIS CHANGE IS THAT THE FIGURE IS NOT BELOW, IT IS ON THE NEXT PAGE.

SECTION 3, PARA 2-6, TABLE 2-2, PAGE 2-36

THE TABLE 2-2 AND SCHEMATIC FO-01 SHOULD COINCIDE WITH EACH OTHER. IT IS SUGGESTED THAT THE TABLE AND SCHEMATIC FO-01 BE REEVALUATED.

THE REASON FOR THIS SUGGESTION IS THAT THE SETTING FOR TR1, TR3 AND TR5 THROUGH TR10 ARE AS PRINTED IN TABLE 2-2 AND DO NOT COINCIDE WITH THE SCHEMATIC FO-01.

SECTION 3, PARA 2-7-A-(3), PAGE 2-40

THIS OPERATION PROCEDURE SHOULD BE CHANGED TO "PULL THE EMERGENCY STOP SWITCH OUT" (MAIN ELECTRICAL PANEL, ITEM 6, FIG 2-1).

THE REASON FOR THIS CHANGE IS THAT THE EMERGENCY STOP SWITCH OF FIG 2-1 IS ITEM 06.

SECTION 3, PARA 2-7-A-(6)-(C) PAGE 2-42

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THE ITEM NUMBER OF THE REFERENCE SHOULD BE REMOVED. THE REFERENCE SHOULD READ (FIG. 2-11).

THE REASON FOR THIS CHANGE IS BECAUSE THERE ARE NO ITEMS INDICATED ON FIGURE 2-11.

SECTION 3, PARA 2-8-F, PAGE 2-48

THIS PROCEDURE SHOULD STATE "COVER THE LADDS WITH ITS PROTECTIVE COVER AND SECURE IT WITH TIE DOWN ROPES TO THE TRAILER".

THE REASON FOR THIS CHANGE IS TO REPLACE THE WORD "TARP" WITH "PROTECTIVE COVER". A PREFORMED PROTECTIVE COVER WAS PROVIDED WITH THE LADDS.

REVISION 02/06/91 - SCORING CONFERENCE.

ITEM# LADD01

SUPPLY SUPPORT CHART
BT II LADDS LAUNDRY/DRY CLEANER
8-ES-115-LAB-003

DATE 03/13/91
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FGC	PART NUMBER	ACT		PART NOMENCLATURE	SERIAL#	TIR #	PART LIFE	
		TAK	QTY				OPSHRS	PRODHR
0200	NFE-4-C	REP	1	THERMOSTATIC VALVE	UNKNOWN	L5-A000143	285.2	231.2
0200	NOT AVAILABLE	REP	1	BULB 130V 2.4W	UNKNOWN	L5-A000130	288.0	240.1
0200	NOT AVAILABLE	REP	1	BULB 130V 2.4W	UNKNOWN	L5-A000131	293.0	248.0
0200	PL6-1-9836	REP	1	SENSOR	UNKNOWN	L5-A000129	286.6	239.0
0200	UNKNOWN	INS	1	NUT, 7/16 INCH	UNKNOWN	L5-A000010	0.0	0.0
0200	UNKNOWN	INS	1	LOCKWASHER	UNKNOWN	L5-A000010	0.0	0.0
0200	UNKNOWN	REP	1	SWITCH, STILL CONTROL	UNKNOWN	L5-A000003	0.0	0.0
0300	UNKNOWN	REP	1	GASKET, DUCT	UNKNOWN	L5-A000039	7.4	2.3
0300	UNKNOWN	REP	1	GASKET, DUCT	UNKNOWN	L5-A000038	0.0	0.0
0300	UNKNOWN	INS	1	SCREEN, LINT	UNKNOWN	L5-A000038	0.0	0.0
0300	UNKNOWN	REP	24	SCREW, CAP, HEX	UNKNOWN	L5-A000143	320.2	271.5
0300	UNKNOWN	REP	24	NUT	UNKNOWN	L5-A000143	320.2	271.5
0300	UNKNOWN	REP	1	GASKET, DUCT	UNKNOWN	L5-A000143	311.2	266.5
0400	NFE-4-C	REP	1	DIAPHRAGM	UNKNOWN	L5-A000070	0.0	0.0
0400	UNKNOWN	REP	1	FLARE NUT	UNKNOWN	L5-A000108	215.1	181.5
0400	UNKNOWN	REP	1	CAP, COMPRESSOR	UNKNOWN	L5-A000106	229.0	194.1
0400	H-2722	REP	1	ELBOW, COPPER TUBING	UNKNOWN	L5-A000124	283.3	239.0
0900	DIL R22	REP	3	COIL, RELAY	UNKNOWN	L5-A000123	283.3	239.0
0900	DIL-R22	REP	1	TR-1 RELAY	UNKNOWN	L5-A000142	323.1	273.4
0900	TPE 11 DIL	REP	5	TR-1 TIMER	UNKNOWN	L5-A000123	283.3	239.0
0900	TPE 11 DIL	REP	1	TR-1 TIMER	UNKNOWN	L5-A000123	283.3	239.0
0900	TPE 11 DIL	REP	1	TR-1 TIMER	UNKNOWN	L5-A000142	34.6	30.2
0900	UNKNOWN	INS	3	WASHER	UNKNOWN	L5-A000123	283.3	239.0
0900	UNKNOWN	INS	1	GASKET, SPLINE	UNKNOWN	L5-A000123	283.3	239.0
1000	29178-50	REP	1	O-RING SEAL	UNKNOWN	L5-A000101	92.9	82.2
1000	29178-50	REP	1	O-RING SEAL	UNKNOWN	L5-A000103	121.4	107.3
1000	29178-50	REP	1	O-RING SEAL	UNKNOWN	L5-A000110	24.2	20.6
1000	29178-50	REP	1	O-RING SEAL	UNKNOWN	L5-A000151	112.4	93.3
1000	P/100	REP	1	BAG, FILTER	UNKNOWN	L5-A000048	11.3	7.4
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000074	10.5	6.3
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000077	53.4	49.0
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000085	3.4	3.2
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000096	126.3	114.0
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000100	7.5	6.3
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000101	8.0	7.4
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000102	13.2	12.2
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000103	19.2	16.3
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000110	24.2	20.6
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000138	39.5	34.1
1000	P/100	REP	1	BAG FILTER	UNKNOWN	L5-A000149	39.2	31.2

ITEM# LADD01

SUPPLY SUPPORT CHART
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PAGE 2

FGC	PART NUMBER	ACT		PART NOMENCLATURE	SERIAL#	TIR #	PART LIFE	
		TAK	QTY				OPSHRS	PRODHR
1000	P/100	REP	1	BAG FILTER	UNKNOWN	LS-A000151	33.3	28.1
1000	P/100	REP	1	BAG FILTER	UNKNOWN	LS-A000152	30.0	27.5
1700	7392815	REP	1	ACTUATOR	UNKNOWN	LS-A000018	0.0	0.0

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PAGE: 1

SERVICE REPORT

PROJECT TITLE: DT II LADDS LAUNDRY/DRY CLEANER
PROJECT NUM : 8-ES-115-LAD-003

ITEM: GENLAD

DATE	START TIME	MILEAGE READING	SUBSYSTEM	ACT TAK	WHEN PERFRM	COMMODITY TYPE	COM	QTY	UNITS
900807	1346	0.0	GENERATOR	ADD	PRE-O	FUEL OIL, DF2	FUEL	25.0	GALLONS
900809	1320	0.0	GENERATOR	ADD	PRE-O	FUEL OIL, DF2	FUEL	1.0	GALLONS
900816	0620	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	15.0	GALLONS
900816	1332	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	9.5	GALLONS
900827	0733	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	15.2	GALLONS
900827	0956	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	50.0	GALLONS
900831	1259	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	51.6	GALLONS
900906	1320	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	38.0	GALLONS
900910	1014	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	50.0	GALLONS
900918	1315	0.0	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	49.0	GALLONS
901115	1519	748.4	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	34.0	GALLONS
901207	0929	748.4	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	53.0	GALLONS
901213	0932	748.4	GENERATOR	ADD	OPERA	FUEL OIL, DF2	FUEL	4.0	GALLONS
TOTAL								395.3	

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SERVICE REPORT

PROJECT TITLE: DT II LADDS LAUNDRY/DRY CLEANER
PROJECT NUM : 8-ES-115-LAD-003

ITEM#: LADD01

DATE	START TIME	MILEAGE READING	SUBSYSTEM	ACT TAK	WHEN PERFM	COMMODITY TYPE	COM	QTY	UNITS
900814	1211	0.0	DRUM & BASKET A	ADD	UNSCH	GREASE, GENERAL PURPOSE GREASE		3.0	QUARTS
TOTAL								3.0	
900824	1346	0.0	REFRIGERATION U	CHA	UNSCH	FREON 12	OTHER	15.0	POUNDS
900906	1312	0.0	REFRIGERATION U	CHA	OPERA	FREON 12	OTHER	3.0	POUNDS
900917	1350	0.0	REFRIGERATION U	CHA	UNSCH	FREON 12	OTHER	2.5	POUNDS
901019	1135	735.0	REFRIGERATION U	CHA	UNSCH	FREON 12	OTHER	10.0	POUNDS
901020	0721	735.0	REFRIGERATION U	CHA	UNSCH	FREON 12	OTHER	15.0	POUNDS
901020	1410	748.4	REFRIGERATION U	ADD	UNSCH	FREON 12	OTHER	5.0	POUNDS
901115	1058	748.4	REFRIGERATION U	ADD	OPERA	FREON 12	OTHER	10.0	POUNDS
901205	1351	748.4	REFRIGERATION U	CHA	UNSCH	FREON 12	OTHER	30.0	POUNDS
TOTAL								90.5	
900807	1300	0.0	SOLVENT TANK PA	ADD	PRE-O	DRYCLEANING SOLVENT PS66SOLVENT		1885.0	POUNDS
900808	1300	0.0	SOLVENT TANK PA	ADD	PRE-O	DRYCLEANING SOLVENT PS66SOLVENT		180.0	POUNDS
900809	0809	0.0	SOLVENT TANK PA	ADD	PRE-O	DRYCLEANING SOLVENT PS66SOLVENT		150.0	POUNDS
900809	0907	0.0	SOLVENT TANK PA	ADD	PRE-O	DRYCLEANING SOLVENT PS66SOLVENT		286.0	POUNDS
900815	1931	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		127.0	POUNDS
900815	2110	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		356.0	POUNDS
900816	1102	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		118.0	POUNDS
900816	1206	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		220.0	POUNDS
900824	1341	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		374.0	POUNDS
900827	0829	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		265.0	POUNDS
900828	1754	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		396.0	POUNDS
900829	0506	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		386.0	POUNDS
900829	1925	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		210.0	POUNDS
900829	2202	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		76.0	POUNDS
900829	2241	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		302.0	POUNDS
900830	0300	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		244.0	POUNDS
900830	0300	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		244.0	POUNDS
900830	1122	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		130.0	POUNDS
900830	1159	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		297.0	POUNDS
900830	2238	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		390.0	POUNDS
900831	1047	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		546.0	POUNDS
900905	1932	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		348.0	POUNDS
900905	2252	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		292.0	POUNDS
900906	1126	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		162.0	POUNDS
900906	2128	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		482.0	POUNDS
900907	1753	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT		184.0	POUNDS

DATE: 04/25/91

PAGE: 3

SERVICE REPORT

PROJECT TITLE: DT II LADDS LAUNDRY/DRY CLEANER

PROJECT NUM : 8-ES-115-LAD-003

ITEM#: LADD01

DATE	START TIME	MILEAGE READING	SUBSYSTEM	ACT TAK	WHEN PERFRM	COMMODITY TYPE	CON	QTY	UNITS
900907	1812	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	238.0	POUNDS	
900910	0333	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	432.0	POUNDS	
900911	0903	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	403.0	POUNDS	
900911	1210	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	269.0	POUNDS	
900912	1248	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	666.0	POUNDS	
900912	1741	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	524.0	POUNDS	
900917	1746	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	163.0	POUNDS	
900918	0615	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	522.0	POUNDS	
900918	2203	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	172.0	POUNDS	
900919	2216	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	574.0	POUNDS	
900921	0316	0.0	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	92.0	POUNDS	
900925	0806	13.6	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	414.0	POUNDS	
901114	1505	748.4	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	690.0	POUNDS	
901205	1446	748.4	SOLVENT TANK PA	ADD	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	692.0	POUNDS	
901212	1010	748.4	SOLVENT TANK PA	SER	OPERA	DRYCLEANING SOLVENT PS66SOLVENT	108.0	POUNDS	

TOTAL 14609.0

LADDS TIR Index of Operation Mission Failures

TIR No. L5-A	Miles	OPSHRS	FGC	Subsystem	Incident Title
31	2	1.2	0700	Washer drum	The drum/basket did not rotate.
38	7	2.5	0300	Control trap duct	Cracks in control trap.
40	8	3.2	0300	Control trap duct	Control trap Class 3 leak.
60	31	20.3	0700	Washer drum	Class 3 drum door leak.
70	35	203.0	0400	Refrigeration	The sensing bulb capillary tube had broken on the TX valve.
77	113	91.0	1000	Bag filter	The bag filter O-ring failed.
91	177	149.3	0100	Solvent	Excessive solvent was pumped from rinse tank to drum/basket.
94	190	159.4	0200	Still	The still was not transferring solvent.
106	229	194.1	0400	Refrigeration	A soldered joint failed on the compressor suction line causing a refrigeration leak.
108	215	181.5			Refrigeration leak at capillary tub flare nut.
111	238	202.4			Refrigeration leak in compressor union coupling line.
115	268	202.4	0400	Refrigeration	Freon 12 leaking from the compressor suction line.
120	275	231.4	0900	Pneumatic	The PV103 pneumatic valve was discovered to be inoperative.

<u>TIR No.</u>	<u>Miles</u>	<u>OPSHRS</u>	<u>FGC</u>	<u>Subsystem</u>	<u>Incident Title</u>
123	283	239.0	0900	Electrical panel housing	The LADDS electrical panel housing broke away from main housing.
124	283		1200	Piping	A 90-degree, 5/8-inch copper piping was severed.
126	283		0200	Still	Still control assembly was damaged during transportability testing.
127	287		0400	Refrigeration	Low pressure during dry unit operation.
129	287	239.0	0200	Still	Still did not transfer solvent.
142	318	266.2	0700	Drum/basket	Drum/basket was rotating in the wrong direction.
143	334	285.5	0400	Refrigeration	Refrigeration dry unit was inoperative.
144	320	271.5	0300	Control trap duct	A crack was found in the control trap duct weld.
145	320	271.5	0200	Still	The still ready indicator would not light.

LADDS Technical Manual DEP 10-3510-221-14 Deficiencies

Problems that identified within DEP 10-3510-221-14 are summarized below.

1. Section 3, Paragraph 1-10-C, Chapters 1 and 2, Page 1-12

The last sentence of the top paragraph should read: "When the laundry card (conventional or NBC) is inserted in the card reader and the start button is pressed, the laundry unit then starts cleaning the clothes and continues until the cycle run indicator light goes out".

The reason for this correction is due to this sentence not stating how the operator determines that the cycle is actually completed and not paused between cycle rotations and inadvertently opening the door prematurely.

2. Section 3, Paragraph 1-10-D, Page 1-16

The next to the last sentence of the second paragraph should read: "The dry cycle is completed when the cool down and dry cycle indicators go out".

The reason for this correction is due to the LADDS pauses between cycles and could be observed by the operator as being completed. The indicators are the final indication that the cycle is complete.

3. Section 1, Paragraph 2-2-C, Figure 2-1, Item No. 3, Page 2-3

Item No. 3 has the arrow pointing to the lower-left corner of the card reader as shown. The arrow pointing to the top-right corner should be deleted.

The reason for this change is due to the item that the top arrow is pointing to is the "cycle hold" knob which has nothing to do with the advancement of the cycle. The "cycle hold" knob causes the cycle to pause when pulled.

4. Section 1, Paragraph 2-2-C, Figure 2-1, Item No. 6, Page 2-3

The emergency stop switch should be illustrated in the figure. It is located directly below the cool down cycle indicator and to the left of the system control power switch. Item No. 6 should have an arrow pointing to the emergency stop switch.

The reason for this change is due to the emergency stop switch not being illustrated in Figure 2-1.

5. Section 1, Paragraph 2-2-C, Figure 2-1, Page 2-3

The "cycle run" button should be illustrated as a separate item from its indicator and be given a separate number designation.

The "vent" button should be illustrated as a separate item from its indicator and should be given a separate number designation.

The "dry heater" switch should be illustrated as a separate item from its indicator and be given a separate number designation.

The reason for these changes are that the illustration does not indicate which items are switches or buttons and which are indicators.

6. Section 1, Paragraph 2-2-C, Figure 2-1, Page 2-3

The illustration for Figure 2-1 (Sheet 1 of 2) should be a separate figure from Figure 2-1 (Sheet 2 of 2).

The reason for this change is due to a need to divide the electrical panel assembly into two separate figures; the main control panel and indicators. Figure 2-1 (Sheet 1 of 2) is the only control and indicator panel. Figure 2-1 (Sheet 2 of 2) is the electrical circuit and indicator panel.

7. Section 1, Paragraph 2-2-C, Page 2-5

The function/use of key No. 8 should read: "When pushed", will continue to release the internal system pressure (in the drum) to equalize with atmospheric pressure until the button is released.

The reason for this change is due to the operator's need to continue holding the button down until the pressure equalizes.

8. Section 1, Paragraph 2-2-C, Page 2-6

The function/use of key No. 16 should read: "Indicates the system is in the rinse mode during cycle run".

The reason for this change is the word "(mode)" is out of place in this sentence.

9. Section 1, Paragraph 2-2-C, Pages 2-1 and 2-8

Keys No. 43, 44, and 45 should have the "(not used)" removed from the function/use of TR8, TR9, and TR10.

The reason for the change of keys No. 43, 44, and 45 is due to the schematics indicating that TR8, TR9, and TR10 are electrically used (ref FO-01).

10. Section 1, Paragraph 2-2-C, Pages 2-2 and 2-9

Figure 2-2 should be separated from the key indicators of Figure 2-1. Figure 2-2 should be enlarged for clarity and have its own page.

The reason for this change is due to the confusion between Figure 2-1 keys, controls, and indicators with Figure 2-2 illustration and item numbers.

11. Section 1, Paragraph 2-2-C, Figure 2-3, Page 2-11

The control or indicator for Item No. 1 on this illustration should have the arrow pointing to the top-right corner, indicating the location of the sight glass. The other arrow should be deleted.

The reason for this change is that the sight glass, for the drying loop and controls, is illustrated in the wrong location. The sight glass is located to the rear of the refrigeration unit's compressor.

12. Section 1, Paragraph 2-2-C, Figure 2-3, Page 2-11

The illustration and control or indicator should be changed to reflect the location and function/use of the high pressure switch control box and the low pressure switch control box. These control boxes are located to the rear of the refrigeration unit's compressor.

The reason for this change is that Figure 2-3 fails to mention or illustrate the location of the high and low pressure switch control boxes. Both boxes are located next to each other behind the refrigeration unit's compressor.

13. Section 1, Paragraph 2-2-C, Figure 2-4, Page 2-12

The illustration of Figure 2-4 should be changed to reflect Item No. 6 as the temperature control boxes with arrows pointing to both of them. The control box indicated and enlarged is in the correct location. The second temperature control box is located in the bottom right corner of the dump tank (solvent tank pallet assembly). These two boxes should be numbered 6A and 6B.

The temperature control knob should be illustrated as it is in the exploded view.

The reason for this change is because the temperature control boxes are not identified. There are two control boxes and each has a temperature control knob. For Item No. 6 function/use should read thermostat control housing.

14. Section 1, Paragraph 2-2-C, Figure 2-7, Page 2-15

The front view and the left side view need to be reversed.

The reason for this change is that the tongue of the trailer is considered the front of the system. The still electrical panel faces toward the tongue of the trailer.

15. Section 1, Paragraph 2-2-C, Figure 2-8, Page 2-18

This illustration should be redrawn, indicating the position of the new pneumatic pump and the new location of the reservoir tank.

The reason for this change is that the location of the new pneumatic pump and the reservoir tank have been relocated. The reservoir is located next to the pneumatic pump directly under the drum and basket assembly.

16. Section 2, Paragraph 2-5, Table 2-1, Page 2-27

The "item to be inspected/procedure" for Item No. 1E(1) should read "wash tank temperature gage normal indication is 90°F (32°C)".

The reason for this change is per the NRDEC representative's instructions that the temperature of 60°F is incorrect and that 90°F is correct.

17. Section 2, Paragraph 2-5, Table 2-1, Page 2-27

The "equipment is not ready/available if" for; Item No. 1E(1) should read "temperature below 90°F (32°C)".

The reason for this change is per the NRDEC representative's instructions that the temperature of 60°F is incorrect and that 90°F is correct

18. Section 2, Paragraph 2-5, Table 2-1, Page 2-28

The "item to be inspected/procedure" for Item No. 4-C should state "check sight glass for indication of refrigeration charge". The statement for the "equipment is not ready/available if" "no indication of change". Instead of no indication of change.

The reason for the change is to stay consistent with the sight glass check procedure of Item No. 2-E.

19. Section 2, Paragraph 2-5, Table 2-1, Page 2-29

The "item to be inspected/procedure" for the drum and basket assembly, Item No. C-(1), states "the temperature gage normal indication is 140 degrees" should be corrected.

The reason for this correction is that the maximum temperature of this gage is 140°F. There is no established normal drum and basket temperature.

20. Section 2, Paragraph 2-5, Table 2-1, Page 2-30

The bag filter assembly "item to be inspected/procedure" needs to be changed to "replace the bag filter".

The reason for this change is because there are no instructions for cleaning the contaminated bag filter. The manual, Chapter 2, Paragraph 2-83, Page 4-167, gives the procedure for the bag filter replacement.

21. Section 3, Paragraph 2-6, Page 2-32

This caution should have the words "and locked in place" inserted after the word "lowered".

The reason for this is because the legs swing toward the rear of the trailer and might not hold the weight if the trailer is moved forward. Forward movement of the trailer could cause the unlocked legs to swing backwards, causing the front of the trailer to fall.

22. Section 3, Paragraph 2-6-A, Page 2-32

The procedure for "locating the trailer" should read "the system is towed to a level location by a 5-ton (or greater) cargo vehicle". Before attempting to disengage the trailer from the vehicle, the trailer's hand brake must be applied, the wheels chocked, and the leveling jacks lowered and locked into place. The air lines are to be disconnected and the lunette is raised from the vehicle and the vehicle is removed. The rear legs are then lowered and locked in place.

The trailer is leveled by checking the leveling bubbles located on each corner of the trailer.

The reason for this change is because good safety procedures should be utilized by chocking the wheels and locking the leveling jacks in place when lowered.

23. Section 3, Paragraph 2-6.(5)-(D), Page 2-34

The figure reference (Fig. 2-10 below) should read (Fig. 2-10).

The reason for this change is that the figure is not below; it is on the next page.

24. Section 3, Paragraph 2-6, Table 2-2, Page 2-36

Table 2-2 and schematic FO-01 should coincide with each other. It is suggested that the table and schematic FO-01 be re-evaluated.

The reason for this suggestion is that the setting for TR1, TR3, and TR5 through 5410 are as printed in Table 2-2 and do not coincide with the schematic FO-01.

25. Section 3, Paragraph 2-7-A-(3), Page 2-40

This operating procedure should be changed to "pull the emergency stop switch out" (main electrical panel, Item No. 6, Fig. 2-1).

The reason for this change is that the emergency stop switch of Figure 2-1 is Item No. 6.

26. Section 3, Paragraph 2-7-A-(6)-(C), Page 2-42

The item number of the reference should be removed. The reference should read (Fig. 2-11).